COOPERATION URGED IN APPLIANCE SALES

NEW YORK CITY—It is to the mutual advantage of department stores and public utility companies to cooperate in increasing distribution of electrical appliances. Greater profits for both types of organizations are certain to result from a closer relationship.

This was the assertion made by W. R. Putnam of the Electric Bond & Share Co. when he addressed a recent meeting of department store merchandise managers during sessions of the National Retail Dry Goods Association here.

Pointing out ways in which utilities can be of service to department stores, Mr. Putnam said, "The utility . . . may be of assistance to the store buyer in the selection of the types of appliances that result in customer satisfaction—and so help the merchant avoid expenses incident to returned merchandise.

"The utility should continue its collection of facts concerning the local appliance market, and very probably can supply this information to the stores."

In addition, utility representatives and home economists can be of service in teaching store employes how better to demonstrate appliances, how to appreciate their use, said the speaker. Stores and utilities can cooperate in exchange of credit information.

Continue Advertising

Undoubtedly, public utilities should continue to advertise various electrical appliances—cooperating, when possible with retailer advertising. And oftentimes, utility companies can supply service to appliances sold by department stores, when special agreements have been made to this effect.

Mr. Putnam then outlined functions which department stores might perform in a program of utility-store cooperation, as follows:

Department stores, he said, can supply "a constantly increasing volume of appliance sales, as well as a continual widening of lines of appliances sold."

They can assist by recognizing the value of good utility service in giving customers satisfaction with the appliances they buy. They can work to prevent political and governmental hindrances on utilities which might hamper the companies in giving good, economical service, he asserted.

Appliance Operating Costs

"There would always be appliance business as long as service is good, even though rates were high; whereas if gas and electric service are uncertain, customers cannot use their appliances, no matter how low their rates," Mr. Putnam asserted.

All department store employes should acquire a thorough understanding of appliance operating costs to enable them to give prospects proper estimates of running expenses on all appliances, he said.

Department stores should inform their customers as to the types of service available from the utility companies, and urge wide use of this service.

Both utility and department store executives should not hesitate to come together for discussions of current problems and misunderstandings, he averred, as such conferences supply a basis for solution of common difficulties.

Recognize Assistance

Said Mr. Putnam: "The recent disagreements have taught us utility men a lesson: in the future, we will not be so dogmatic in our handling of trade problems. The constantly decreasing utilities' share of total appliance sales has shown us we are not required to do a large portion of the appliance selling.

"We recognize the great assistance your stores are rendering through your appliance sales. We are no longer concerned as to who makes appliance sales as long as our customers purchase quality appliances in a constantly increasing volume.

"We want you to continue in the appliance business, and to increase your appliance sales rapidly, and I am confident that I can assure you a most friendly, understanding, and wherever you desire, helpful attitude, on the part of utilities toward your appliance merchandising operations."

GIBSON HOME ECONOMIST CONTACTS DEALERS

GRAND RAPIDS, Mich.—Miss Jacqueline Frost, home economics director for the Gibson Electric Refrigerator Corp. of Greenville, Mich., contacted dealers and prospective buyers for Morley Bros., Saginaw Gibson distributor, during the annual Michigan Retail Hardware Dealers' convention.

STUDENTS VISIT KELVINATOR

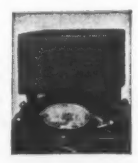
DETROIT—Eleven students and graduates of the home economics department of Detroit City College attended the recent regional home economics school held in the experimental kitchens of Kelvinator Corp. here.

The "care-free" Type KC capacitor-motor further improved to save you money

1. DRIP-PROOF END FLANGES
This feature improves appearance and prevents any foreign material from dropping into the motor.

3. OIL CAPACITY DOUBLED
The improved wool-packed bearings contain twice as much oil as before. The oil is held in capillary suspension, as water is held in a sponge. This prevents the spilling of oil and assures long bearing-life.

2. SIMPLIFIED CONNECTIONS*
A terminal board in the flange eliminates all necessity for splicing and soldering leads. Three binding posts are provided for direct connection of line and cold-control leads.



4. SMALLER CAPACITOR CASE
The capacitor unit is one-half as large as before, requiring less space in your cabinet for the power drive.

THE Type KC capacitor-motor is the product of eight years of experience in designing and manufacturing capacitor-motors for refrigerators. The number of wearing parts has been reduced to the minimum.

Accurately built in every part, mounted on a resilient steel-spring base, it is, as a result, quiet. Everything about it spells simplicity, long life, and obvious dependability.

Our fractional-horsepower motor specialists in a G-E office near you will be glad to tell you more about the Type KC capacitor-motor; or address General Electric Company, Schenectady, New York.

*In addition to our improved Type KC capacitor-motor, the illustration shows a G-E cold-control unit connected to the motor by rubber-covered cable. Note how simply these connections can be made. To insure unit responsibility for the electric equipment of your refrigerator, order G-E control units and cable with your motors.

210-211

GENERAL ELECTRIC

THE NEWSPAPER OF THE INDUSTRY

ELECTRIC REFRIGERATION NEWS

WRITTEN TO BE READ ON ARRIVAL

Registered U. S. Patent Office

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THE JOHN CRERAR LIBRARY MAR 18 1933

ELECTROLUX DESIGNS AIR-COOLED SYSTEM

PROPOSED CODE LETS DOWN BARS TO F-12 IN N. Y.

Revised Ordinance on Refrigerants Being Considered

NEW YORK CITY—Exemptions for dichlorodifluoromethane (F-12) from practically all of the restrictions which now govern the use of refrigerants in New York City will be allowed if the amendment to the code filed March 1 is approved. The following ordinance, introduced by Aderman McGarey, and referred to the Committee on General Welfare, will be subjected to a public hearing, the date of which has not been announced.

An Ordinance
Int. No. 704—Ord. No. 74

An Ordinance to amend the Code of Ordinances of The City of New York, in relation to refrigerants.

Be it Ordained, by the Board of Aldermen of The City of New York, as follows:

Section 1. Chapter 10, article 1, section 1, subdivision 33, paragraph (d) of the Code of Ordinances of The City

(Concluded on Page 5, Column 1)

REFINEMENTS ARE MADE IN NEW BALDOR CAPACITOR

ST. LOUIS—Baldor Electric Co. of this city is now in production of a new fractional horsepower capacitor motor embodying several refinements new to the Baldor product.

In this new motor, an electrolytic capacitor is located in the base to make the unit compact. The motor it-

(Concluded on Page 12, Column 1)

Next Issue to Give Specifications

Publication of detailed specifications of all popular makes of household electric refrigerators will feature the next issue of Electric Refrigeration News, March 22. This tabulation will show such important facts as food capacity, prices, finish, dimensions, type of system, and make of the various parts used.

Another valuable service to be rendered by the News in the March 22 issue will be full explanation of a tentative test procedure for electric refrigerators, drafted by Electrical Testing Laboratories.

Please place your order for extra copies now. Be sure to send cash, money order, or postage stamps to insure prompt delivery. Price: 10 cents per copy.

Executives Believe 'New Deal' Will Start Buying Wave

DETROIT—To ascertain what effects the national banking holiday, the issuance of scrip in many localities, and the aggressive new policies of the Roosevelt administration might have on the electric refrigeration industry, ELECTRIC REFRIGERATION NEWS sent the following telegram to a number of leading executives in the industry, and also to several noted economists:

"Please wire your opinion regarding probable effects upon public with particular reference to purchasing power and buying attitude toward electric refrigerators in event of national currency inflation or wide circulation of new money such as local scrip. Answer requested by March 11 for publication in next issue."

Answers received to date are printed below:

P. B. Zimmerman

Telegram
Cleveland, Ohio.

Editor:

Retel. Our distributors state that there will be greatly increased purchases of refrigerators with resumption of national currency as prospects will now have a better appreciation of the excellent value of a refrigerator as against other investments.

P. B. ZIMMERMAN,
Manager, specialty appliance dept., General Electric Co.

George W. Mason

Detroit, Mich.

Editor:

A wave of buying, during which the American public will exchange its money for manufactured commodities because it wants to and needs to, is anticipated by Kelvinator Corp.

With the passing of the nation-wide bank crisis, citizens of the United States are going to realize that money must remain in circulation if it is to be valuable. Restoration of confidence will have the effect of inducing them to spend their money for the things they have been needing.

So long as there was an element of fear in the minds of the public, money remained hidden. Because of the slowing down of spending, business in general suffered, with the inevitable result that unemployment increased. I believe that sound methods for restoring confidence are afoot and once the people of this country begin to buy the products of American factories and farms, the nation will see a new reign of prosperity, built upon a foundation more solid than ever before.

The electric appliance field and the electric refrigeration industry in particular are among the least affected by adverse conditions.

Throughout the entire depression there has been a steady progress in this industry, particularly in the development of products and the public acceptance of this method of food preservation. Resumption of public buying will find us equipped in every way to meet this new turn in the tide.

There are 19,874,513 wired homes in the United States, with approximately 4,000,000 electric refrigerators installed, 840,000 of them in 1932. This represents a saturation of only 20 per cent of the potential market.

Such a large field for the sale of electric refrigeration products, coupled with the business improvement which we feel certain is on the way, is one of the main reasons why we are this spring launching our most intensive selling campaign.

GEORGE W. MASON,
President.

H. W. Newell

Telegram
Dayton, Ohio.

Editor:

A new spirit of business progress and optimism that will definitely benefit the refrigeration industry is being evidenced throughout the nation.

Reaction of our selling men to our 1933 program of sales plans advertising the products gives us the definite belief that this year is going to be a good one for refrigeration.

In 1932 price was the predominating sales appeal of all manufacturers. There was lots of competition with over 100 manufacturers in the field and selling methods—both specialty and merchandising—continued much the same as through the active period of 1928-1929.

The conditions we found in the electric refrigeration industry were to be expected as the natural growth and development of an industry, because, generally speaking, all new industries go through the same periods of development. These conditions also were partly brought about by the general economy situation over which we had no control.

We are changing conditions in the Frigidaire business for 1933. Our plans have been made to meet new market conditions, new income standards, new competition and new selling methods.

We believe that those manufacturers and their associated sales organizations in this or any other utility who fail to recognize the changed conditions and shape their plans and policies to meet them will not progress and prosper but will be left far behind by more far sighted competitors.

Because of the improvement in the national outlook for business, Frigidaire is going through with its entire program of sales activity and advertising and is not curtailing its activity one iota.

H. W. NEWELL,
Vice president in charge of sales, Frigidaire Corp.

Howard E. Blood

Detroit, Mich.

Editor:

Replying to your wire.

I look for an immediate and general increase in purchasing by the public following immediately upon the resumption of banking activity under President Roosevelt's program. The elimination of fear which has been causing people to hang on to their reserves and to hoard money, the general feeling that the final crisis has been at last passed, the wide-spread confidence in the aggressive leadership of the new administration, cannot but release the long repressed desire to buy things. This severe housecleaning of the banks, and this change in sentiment, are bound to have cumulatively good effect increasing business activity along all lines. The desire for electric refrigerators is so wide-spread that our industry should be one of the first to feel the benefits of the changed conditions.

HOWARD E. BLOOD,
President.

Charles J. Gibson

Greenville, Mich.

Editor:

In reply to your wire, we believe the currency inflation would increase electric refrigerator sales.

CHARLES J. GIBSON,
President.

B. J. Grigsby

Telegram
Chicago, Ill.

Editor:

Sincerely believe President Roosevelt's masterful handling of banking situation by in effect liquefying slow but good bank assets will restore confidence by providing ample funds for

(Concluded on Page 7, Column 3)

GUARANTEE TABULATION

Guarantees on units and cabinets of electric refrigerators made by 29 manufacturers are listed below:

Manufacturer	Unit Guarantee	Cabinet Guarantee
Apex	1 year	1 year
Copeland	1 year	1 year
Crosley	1 year	1 year
Domestic Industries	1 year	1 year
Frigidaire	1 year	1 year
General Electric		
Monitor Top	4 years	1 year
Junior models	1 year	1 year
Gibson	1 year	1 year
Grigsby-Grunow (Majestic)		
Deluxe line	3 years	None
Models 335, 450	1 year	1 year
Grunow	1 year	1 year
Jewett	1 year	1 year
Kelvinator	1 year	1 year
Leonard	1 year	1 year
Merchant & Evans	1 year	1 year
Montgomery Ward (Trukold)	3 years	3 years
Norge	1 year	1 year
O'Keefe & Merritt		
Models 300, 400, 450, 500	1 year	1 year
All others	3 years	3 years
Sears Roebuck (Coldspot)	1 year	1 year
Servel		
Hermetic line	2 years	1 year
Conventional	1 year	1 year
Sparks-Withington (Sparton)	1 year	1 year
Starr Freeze	1 year	1 year
Stewart-Warner		
Standard line	3 years	1 year
Model 89	1 year	1 year
Tricold	1 year	1 year
Trupar (Mayflower)	1 year	1 year
Uniflow (Challenger)		
Models C-45E, C-45D, C-60D	3 years	1 year
All others	3 years	3 years
Universal Cooler	1 year	1 year
U. S. Radio & Television (U. S. Hermetic)	1 year	1 year
Westinghouse	4 years	1 year
Williams (Ice-O-Matic)	1 year	1 year
Zerozone	1 year	1 year

NO WATER USED IN 5 MODELS OF GAS MACHINES

2-Temperature Cooling Unit Also Featured In New Models

NEW YORK CITY—F. E. Sellman, vice president of Electrolux Refrigerator Sales, Inc., has just announced the design of five air-cooled Electrolux household refrigerators, eliminating the need for city water and drain connections required for installation of previous models.

No fan is used in the five new models provided with air cooling, a natural draft of air being utilized to cool the two finned tube condensers behind a protective wire screen on the back of the cabinet.

One of these condensers liquefies ammonia before it is fed to the evaporator, the other liquefying methyl chloride used in the new secondary cooling system which Electrolux engineers have devised to remove the heat of absorption generated in the absorber.

Other features cited by Mr. Sellman

(Concluded on Page 5, Column 2)

FOUR FRIGIDAIRE CREWS TELL DEALERS 1933 PLANS

WICHITA, Kan. — Two hundred dealers of the S. A. Long Electric Co., Kansas Frigidaire distributor, attended the Frigidaire spring convention at the Lassen hotel on March 6, and heard sales and advertising plans for 1933 presented by J. J. Nance, manager of sales planning, and members of his

(Concluded on Page 5, Column 3)

BAUER BROS. SUSPENDS REFRIGERATION DIVISION

SPRINGFIELD, Ohio — Refrigeration activities of Bauer Bros. Co. have been suspended until conditions improve, C. L. Bauer, president, announces. A manufacturer of grinding and separating machinery, the company introduced a line of household refrigerators last spring.

Compton Resigns At Majestic

Telegram
Chicago.
March 10, 1933.

Editor, Electric Refrigeration News:

I have today tendered my resignation as vice president, treasurer, and director of the Grigsby-Grunow Co., effective immediately. I have always appreciated your cordial courtesy and cooperation.

D. M. Compton.

French's New Process Makes Longer Refrigeration Tubes

WATERBURY, Conn.—A new process of producing seamless copper tubing enables the French Mfg. Co. here to make refrigeration tubes in lengths of 200 ft. and greater, depending on the diameter of the tube produced. One-quarter inch tube, engineers of the company state, has been drawn into a continuous length of 425 ft.

Tubes are made in a reducing machine which subjects the tubing to compression instead of tension, it is announced. The machine is also suitable for production of seamless tubing made of steel, alloys, brass, and other metals, being used in Newark by the Pipe & Tube Bending Corp. of America to make steel tubing.

Designers of the machine claim that it does the work formerly obtained from four or five draw benches used in the previous process, and that it requires less floor space and less power consumption.

The machine reduces tubing by working it between two semi-circular dies or rolls with tapered grooves, one end of which is slightly larger than the outside diameter of the tube being reduced.

These dies are rolled over the tube, so that the gradually diminishing cross-section of the grooves reduces the diameter of the tube and increases its length. The dies operate in a "saddle," mounted on rollers with a reciprocating motion (from 60 to 120 strokes per minute).

Rotary motion is imparted to the rolls from stationary racks on the bed of the machine. Pinions connect the rolls, keeping them in the desired

(Concluded on Page 12, Column 2)

Norge Orders 32 Carloads Of Raw Materials

MUSKEGON, Mich.—Anticipating a rush of new business when the government's expansion of the currency begins to take effect, Norge Corp. last week received 32 carloads of raw materials at its Muskegon Heights plant, John H. Knapp, vice president and director of sales, told Norge service managers who were meeting here last Monday, Tuesday, and Wednesday in their first national convention.

Norge Corp. has 60 carloads of refrigerators on order to be shipped as soon as the banking holiday is lifted and the flow of new money is started, the service managers learned.

Mr. Knapp also stated that plans had been formulated for a nation-wide advertising campaign, to be opened the day the new money is placed in circulation.

"America is on the eve of the greatest buying spree in its history," Mr. Knapp told the service chiefs.

"With inflation will come higher prices and with higher prices prosperity will return," he predicted.

When the banking holiday reached national proportions on March 4, Mr. Knapp wrote a letter to all Norge distributors pointing to the hopeful signs in the present situation and concluding with "Thank God, it's here at last!"

More than 1,000 Norge Corp. employes in the Muskegon Heights plant, who were temporarily laid off March 4 because of the bank holiday, were paid more than $12,000, or 25 per cent of their wages in cash the rest in company checks not exceeding $10 in denomination.

BY GEORGE F. TAUBENECK - - -

19 Candles

Saturday, March 11, Kelvinator Corp. observed its nineteenth birthday and started its twentieth year.

In a little brick building back in March, 1914, A. H. Goss and an engineer followed a vision which was to grow into one of the major industries of the world. That year and the three succeeding ones were devoted to experiments with this new idea and building up an organization. Only three models were made in 1917.

Sales came slowly during the next few years, but by the end of 1921 public utility outlets began to give attention to this new product which promised much in the way of load building. Sales began to grow rapidly in 1923, and with greatly increased advertising effort giving impetus to a new public acceptance of the new product, Kelvinator stock began to boom.

In 1925 the company obtained capital by the sale of a block of common stock through New York investment houses and began building up an extensive dealer organization.

In the fall of that year negotiations were completed which brought about the consolidation of Kelvinator with the Nizer interests, and at the same time the old established Leonard Refrigerator Co. of Grand Rapids was acquired.

In 1926 this new expanded organization started the year as a going business. Kelvinator of Canada, Ltd., was organized, and a plant was purchased. Soon after this move, Kelvinator of London was organized, and the company assumed an international aspect.

Since that day Kelvinator has maintained a strong and leading position in the industry.

* * *

Floating Aerocar

W. G. PARRISH is one Detroit manufacturer who is having difficulty producing as many cars as he can sell. Mr. Parrish is the gentleman who conceived and who builds aerocars—those glorified houses on wheels which are constructed on airplane principles of design.

Probably by this time you have seen a General Electric Kitchen-on-Wheels. That's an aerocar. About 50 of them are now rolling around the country, and all have come out of Mr. Parrish's busy factory (which is adjacent to "JEFF" JOHNSTON'S Universal Cooler plant).

Lightly constructed, without a chassis, streamlined, supported by two wheels at the rear and a nose which fits into a rubber tire in the rear of a coupe, these aerocars can be whisked over the roads at high speeds.

That rubber-tired nose, incidentally, is the patented reason for the aerocar's smoothness. It absorbs sways and jerks from all directions.

Recently we rode from Detroit to Chicago in one of Mr. Parrish's land yachts. A new Graham Eight pulled us at from 50 to 65 miles an hour all the way, without a spit, puff, or wheeze. PARRISH LACY, nephew of Mr. Parrish, was at the wheel.

It was, ladiez an' gennemun, one of the smoothest rides we've ever had in any conveyance—land, water, or air.

This aerocar had a kitchen (including an ice box and a gasoline stove), a shower bath, circulating water, two heavily upholstered bench seats (which unfold into double beds), three leather chairs, closets, a card table, three ceiling lights, electric outlets, ash trays, cigar lighters, heater, a microphone for communication with the driver, a one-station G. E. radio which caught too much motor hum, and, in short, all the comforts of home.

DICK COOPER used it in Chicago to haul the Warner movie stars around the city. And the coach attracted more attention than its occupants!

* * *

Chicago

Chicago, like New York City, is a bright spot in a bewildered nation. True, one hears more talk of Revolution, Riot, and Bloodshed in these two cities than elsewhere. But Chicago fears only possible violence, and expects the nation to right itself economically within the reasonably near future.

Random notes:

B. J. GRIGSBY, Majestic president and board chairman, believes that Grigsby-Grunow's appeal of the cold control patent decision it lost to Frigidaire will be heard in court at Des Moines before summer.

EARL HADLEY, Majestic advertising manager, says that orders for promotional material from distributors have been heavier than ever before. Which indicates to him that the way is being paved for a lot of sales this spring.

HARRY ALTER, former Majestic distributor in Chicago, is now comfortably ensconced as right-hand man to JOHN DITZELL, who is now general sales manager of the company, in charge of both radio and refrigeration sales.

LOWELL McCUTCHEON has moved the Chicago Frigidaire branch from its familiar location at Michigan Ave. and Jackson to 2031 Calumet.

Telephone of the Clago Mfg. Co., which entered the electric refrigeration business last spring with a hermetically sealed four-cylinder compressor, has been disconnected.

Chicago is getting genuinely excited about A Century of Progress, the 1933 World Fair which opens there in June. Almost everybody over there seems to think that it will mark the return of prosperity to the Windy City.

And from all we can gather, almost the entire refrigeration industry will be encamped over there during the fair. Many manufacturers will maintain expensive exhibits, a number of conventions and sales conferences are scheduled for Chicago during June and July, and trips to the fair will probably be awarded as prizes in sales contests.

Engineering societies by the score will meet there this summer, including the American Society of Refrigerating Engineers—which is to convene at the Hotel Sherman June 26 and 27.

Expertly financed, efficiently managed, and imaginatively planned, A Century of Progress really seems to be "the goods."

* * *

San Diego

Not long ago J. CLARK CHAMBERLAIN, secretary-manager of the San Diego County (Calif.) Electric Refrigeration Bureau sent us a bundle of the weekly bulletins issued by his bureau to all members, and some non-members, in his organization's territory.

Each of the bulletins shows plainly that the San Diego bureau is doing things, and has been ever since it was started last October.

Extracts from some of the "cold turkey" talks in Mr. Chamberlain's bulletins are reprinted here. They're worth reading.

"When we have convinced the average person that the products of our industry are not to be classed as luxuries or expensive conveniences, but as a means of almost unbelievable savings, guaranteeing health protection, satisfaction, and all-around economy, we won't be bothered with seasons.

"Other products, radio particularly, found how to overcome the seasonal handicap and so shall we, through education.

"A good many salesmen and some dealers . . . do not themselves really understand what the use of an electric refrigerator means to a household, for they haven't yet acquired the very thing they are attempting to picture to the prospect.

"Merchandise well displayed is half sold, according to legend, but in this business if it is *poorly* displayed, it apparently can't be sold at all.

"The trouble with most of us is that we assume too much. We abruptly change the subject when the prospect insinuates that he knows all about the savings and convenience possibilities, when . . . he probably knows little or nothing. Complete demonstrations have always proved best, and probably always will.

"It has been found that we as individual dealers have been overlooking a good bet in not advertising specific savings possibilities of the electric refrigerator.

"During the recent cold spell, a few owners of electric refrigerators have inquired as to the best way of cutting them off for the winter, to save electricity.

"Such inquiries usually mean that the users do not fully appreciate the savings they have really made through the use of the refrigerator. The dealer, faced with this situation, must attempt in his most careful manner to show that nothing but expense can come from the inactivity of the refrigerator over a period of months.

"Probably at no time this year have local refrigerator stocks been lower than at the present time (Dec. 26, 1932).

"This is true, generally speaking, of dealers and distributors alike, and is a condition that is helping to keep San Diego County practically free from the practice of 'dumping.'

"Price reductions, too, on the part of some half-dozen makes, have helped to keep stocks down and lessen the tendency to cut price or discount.

"There has been less complaint of discounting this month than at any time this fall, a condition which is most gratifying to those who realize the ultimate possibilities of cooperation such as this bureau is attempting to bring about.

"The tendency on the part of the average dealer is now toward individual, rather than multiple representation (handling more than one make).

"There will of course be exceptions, but the problem of advertising and service—to say nothing of sales—which multiple representation has brought, will retard this type of operation.

"At the present time (Dec. 26, 1932), there are approximately 100 outlets for refrigeration in San Diego County. Indications . . . are that this number will be substantially increased, perhaps 25 per cent during the coming year.

"The sentiment of existing dealers will of course be unfavorable toward a substantial increase in the present number of outlets, deemed by many to be too large, but this probably will not materially change the picture.

"It seems perfectly reasonable to predict (for San Diego in 1933) a substantial increase in unit sales over 1932, and a slight increase over 1931.

"At no other time in the history of the industry have distributors been active so early in the season, at least in this territory (Jan. 9, 1933).

"In the old days, distributors were content to wait until March or even April to set up dealers for the coming year. Each year, the representatives of wholesalers have been just a little earlier in getting into the field, . . . with the result that this year, several were found to be actively working on new dealer set-ups long before the old year had gone.

"This is a splendid change of custom, for it helps to convince dealers—who in turn convince prospects—that business can be obtained during the winter months, if we but go after it.

"The very conditions which have added to general unemployment should make it possible for all dealers who desire salesmen to begin training them at this time, rather than in the spring.

"It is common knowledge that there are hundreds of potential salesmen who have lost positions through no fault of their own, and should be prospects for commission selling.

"After acquiring salesmen, the real problem is to keep them busy and happy, for if they are allowed to become discouraged, the time spent in securing and training them will be lost with perhaps no return to the investment.

"Nothing is gained by maintaining an undermanned sales force during these times, and those who tackle this problem energetically are likely to reap rewards in proportion to their activity in this direction.

"Most so-called experts . . . recognize the outstanding value of developing interest through floor contacts which may be followed into the field . . . Some executives have depended too much on floor play alone.

"This is well and good where reasonably frequent floor play exists, but where this is not the case, it is obviously a mistake to pass up the opportunity of developing leads through canvassing.

"Not only have products taken on new lines, new gadgets, and other changes, but policies seem to be undergoing some change. The order of the day seems to be a change, and undoubtedly this is a good sign."

An extract from the Dec. 12, 1932, bulletin shows how the San Diego bureau is helping electric refrigeration dealers and distributors capitalize on a sales promotion scheme of an ice company in that locality. The excerpt follows:

"In the city of Oceanside, the local ice company has just introduced a selling plan which should prove most valuable to the refrigeration dealers there.

"The plan calls for a yearly contract with consumers, under which the ice company is to supply a porcelain-lined ice box without cost (except for $1 delivery charge), and keep it filled with ice for the sum of $2 per month, except during the four warmest months when the cost will be $5 monthly.

"This is a total of $36 per year, or an average of $3 per month. The box, which is slightly larger than 4 cu. ft. food storage capacity, does not become the property of the user; upon cancellation of the contract, the box is removed and may then be given to another consumer.

"The plan also calls for the use of a larger refrigerator of about 6 cu. ft. net food storage capacity. The monthly rate for this refrigerator, which will probably prove the most popular, is $2.50 during the eight cooler months, and $5.50 in the four warm months, or an average of $3.50 per month.

"Inasmuch as this plan will no doubt appear in San Diego as well as in other cities of the county, it becomes of interest to all of us.

"As followed in Oceanside, a more or less thorough canvass of the territory is made with indications that contracts are readily obtainable; and therein rests our advantage.

"Heretofore, in attempting to prove that an electric refrigerator pays for itself, some opposition has been encountered because the average householder maintains ice is used only in the summer, if at all.

"Even though the savings of electricity over ice is only one of five definite savings possibilities, it should be much easier to clinch this point with someone who has an ice contract at the average cost of either $3 or $3.50 per month.

"Unless we miss our guess, this move on the part of the ice companies should prove of material benefit to us."

G. E. in Lilliput

This toy General Electric kitchen is being used by distributors as an inducement for prospects to visit showrooms and aerocar kitchen coaches.

Educational Toy

General Electric distributors in many cities are now exhibiting miniature General Electric Kitchens.

Manufactured by Posad, Inc., of Chicago, of which JOHN DEWITT GRAY is vice president and treasurer, these toy models are constructed in detail, and to scale, on a pattern for an efficient all-electric kitchen designed by the General Electric Kitchen Institute.

Each of the appliances is movable. All working surfaces are made of Monel Metal. A complete lighting unit is provided with each kitchen.

R. Cooper Jr., of Chicago, is giving these toys away as an inducement for prospects to visit the G. E. Kitchen Coach when it is in the neighborhood. He has found that the gift is valued.

In the April 27, 1932, issue of Electric Refrigeration News we commented in "The Expansion Valve" on a cardboard kitchen toy which we saw in a Washington, D. C., drugstore window, and concluded as follows:

"Would it not be a good stunt to make up a set of this type—supplanting the ice box with a replica of your refrigerator—for distribution to prospects, instead of the customary storybooks? And how about a toy all-electric kitchen?"

And now that we've seen it worked out, we still think it's a good idea.

* * *

Kitchen Popular

That G. E. kitchen, incidentally was where you'd often find the Warner Bros. movie people when the G. E. "42nd Street Special" train (about which we talked at length last week) got going.

Most of the girls took it for granted that all cake comes full-blown somehow from bakery shops, and eggs are laid readyfried; yet they like to believe that their sex gives them proprietary rights to a kitchen, and they love to fuss around it.

Take BETTE DAVIS, for instance. (You'd probably like to—we would, anyhow.) She's newly married, and was taking her honeymoon on this train. Bette is quick to admit she has no knowledge of or facility for cooking. But now that she has that precious platinum band around her finger, she sorta feels as if she should get acquainted with a range.

Speaking of Miss Davis is a reminder that many have asked us if "Bette" is pronounced "Bet" or "Betty." The latter is correct.

TOBY WING, one of the darlingest bits of femininity you ever stuffed your orbs with, is another who'd often be found back in the kitchen toying with the percolator or fingering the sliding shelves in the refrigerator. One reason is that Toby is always hungry.

When LAURA LAPLANTE went back there, however, you had a feeling that competence had arrived at last. Miss LaPlante has been mistress of a household long enough to understand that food is preserved in a refrigerator, prepared in a stove, and eradicated in a dishwasher. And other things.

The steward reported that he was called upon for snacks at all hours, and sometimes the orders were so heavy that he suspected the girls were entertaining TOM MIX'S horse in one of their drawing rooms. He kept the S-67 G. E. refrigerator loaded with cold meats, eggs, butter, tomato juice, and the like at all hours.

TOM MIX

* * *

Leavett, Wright

General Electric has two advertising agencies, Maxon, Inc., and Batten, Barton, Durstine & Osborn. Both had a representative on the above-mentioned train. B.B.D. & O. man was the popular JIM WRIGHT, a tall, dark, suave, humorous fella who spread a lot of good cheer in his wake. Handled vexing details smoothly and without irritation.

JIM WRIGHT

DICK LEAVETT of Detroit was the Maxon representative. He was also our bunk mate, and a darned accommodating one, too.

First up in the morning and last to bed at night, Dick poured a tremendous quantity of energy and likeableness into the job of helping newspapers along the line play up the train, the kitchen, and the G. E. showroom broadcasts.

Result was front-page accounts, feature stories, and art splashes in practically every paper he contacted.

Coming

The big news of 1933 "breaks" next week

You've read many important announcements. But none, we believe, quite as sensational as the one about to be published. • It will be made by Frigidaire in the next issue of Electric Refrigeration News. • Don't miss this announcement. Make a note *now* to look for it. It will tell about a new Frigidaire utterly different from any that has preceded it. One that opens up a tremendous new market. The facts to be revealed next week are of vital importance to every electric refrigeration dealer and salesman in America. Next week's issue of Electric Refrigeration News will carry startling front-page news about Frigidaire.

COMPANION MERCHANDISE

OIL-O-MATIC USED IN CARTECO BOILER UNIT

BLOOMINGTON, Ill.—A Williams Oil-O-Matic oil burning unit is used in the new Carteco combination boiler-burner heating unit.

The Carteco boiler is designed and manufactured by Orr & Sembower, Inc. It has an added feature in that the one heating plant can be easily and simply equipped to care for both heating and domestic hot water supply in the home.

The domestic hot water supply system requires no attention other than maintaining the required water level in the boiler. At the end of a heating season the operation of the oil burner is governed by domestic hot water requirements alone.

The Carteco boiler-burner unit comes in five models for steam and five for hot water.

DELCO APPLIANCE CORP. JOINS A.O.B.A.

NEW YORK CITY—The Delco Appliance Corp., which manufactures oil burners, has applied for and has been accepted into membership of the American Oil Burner Association, according to Harry F. Tapp, executive secretary of the association.

E. A. Halbleib is president of the Delco Appliance Corp. and D. M. Gardiner is heat division sales manager.

Century Introduces New Oil Burner

CEDAR RAPIDS, Iowa—The Century Engineering Corp., manufacturer of Century automatic oil burners, has just announced a new burner, model 1DS, which incorporates many new features.

Chief among these is the new silencer manifold, which is said to eliminate all sound of combustion and ignition. The principle of the silencer manifold is similar to that of the maxim silencer used on firearms, sound vibrations dissipating themselves in the series of convolutions or expansion areas before traveling outside the burner.

Vibration is minimized by a new rubber mounting of the entire burner on a rubber bearing or sleeve in the clamp of the burner leg. This sleeve also constitutes the height adjustment of the burner.

Another new feature is a Cuno filter cartridge installed in a Century-designed housing, which makes it possible to clean the strainer by operating an external handle.

The new model has a capacity of from 1 to 6 gal. of oil per hour and is of the pressure-atomizing, constant-ignition type, selling complete with thermostat and Stack safety switch.

It is finished in chromium plate and enamel, with all exposed screens and nuts also chromium plated. The blower manifold has been made of brass as a basic metal.

LAUNDRYETTE CORP. PURCHASED BY APEX

CLEVELAND—The Apex Electrical Mfg. Co. of this city has acquired the business of the Laundryette Corp., manufacturer of Laundryette washing machines and chloride dry cleaning equipment and commercial extractors, according to C. G. Frantz, president of the Apex Co.

The new Chloride Dry Cleaning division of the Apex Co. will be housed in Apex plant No. 3 on Bessemer Ave., where facilities for the production of this dry cleaning equipment are available. This building will also house a complete service department for the servicing and furnishing of parts for the more than 100,000 Laundryette washing machines now in use.

The sales department of this new division will be headed by E. H. Bryant, who for several years has been sales manager for the Laundryette Co.

"The newly acquired business," Mr. Frantz explained, "will be handled as a separate and distinct activity to the home appliance business in which Apex has been engaged."

67,543 Burners Ordered During 1932

WASHINGTON, D. C.—Sales figures reported to the U. S. Bureau of the Census by 103 manufacturers of domestic, commercial, and industrial oil burners show that these companies received new orders for 67,543 burners in 1932, compared with 83,003 in 1931, or a decrease of 15 per cent.

These figures show that the reporting companies received orders for 60,851 domestic burners last year against 73,688 the year before, a decline of 17.4 per cent.

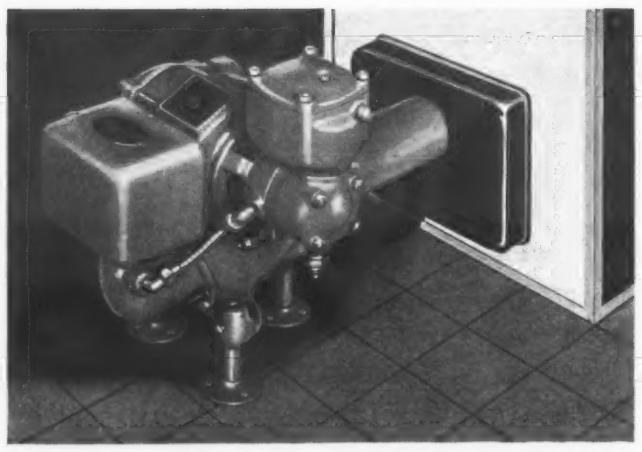
TWO NEW
OIL-O-MATIC PRODUCTS

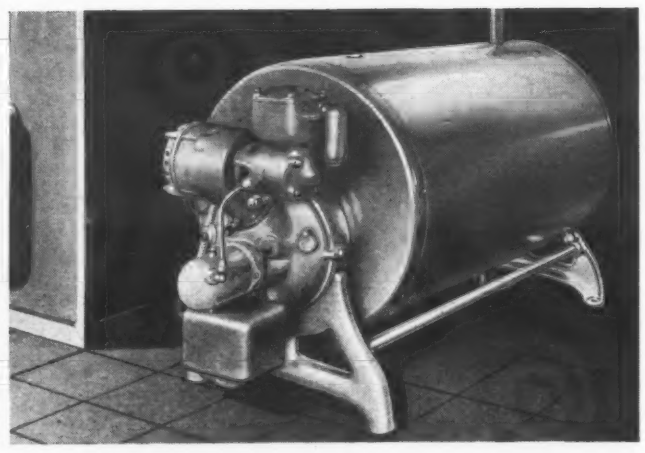
A new

OIL-O-MATIC

for smaller homes··· and a new

HOT WATER HEATER





OIL-O-MATIC dealers are set for a big share of 1933 oil burner business. They'll be selling genuine Oil-O-Matic Hushed Heat at an all-time record low price in this brand new Small Home Model K-15. They'll be selling a new Hot Water Heater so revolutionary in design, so much lower in operating cost than other domestic hot water supply systems, that it literally *buys itself* with the money it saves the user every month! These aren't guesses, or mere hopes. They're facts, which you can prove to your own satisfaction by sending the coupon for the evidence. Do it today!

WILLIAMS OIL-O-MATIC HEATING CORPORATION
Bloomington, Ill.

WILLIAMS
OIL-O-MATIC
HEATING
Listed as standard by Underwriters' Laboratories.

Williams Oil-O-Matic Heating Corp. RN-3
Bloomington, Illinois
Tell me more about the Oil-O-Matic program for 1933.

Name .....

Address .....

City ..... State .....

My Present Business is .....

77 Spaces Leased For Burner Show

NEW YORK CITY—A total of 77 spaces by 47 exhibitors has been taken for the Tenth National Oil Burner show of the American Oil Burner Association to be held in Chicago's Hotel Stevens June 12-16, according to Harry F. Tapp, executive secretary of the association, who states that this large registration so far in advance of the opening date "indicates that the exposition will be a national event in the heating and air-conditioning field."

"Not in the 10 years of the association's show history has there been such a response to plans for a national convention," Mr. Tapp declares. "While the World's Fair may be considered one factor in bringing out this interest, the fact remains that indications point to this year as a turning point in the industry's progress with mass marketing and air conditioning immediately before us."

MISS McMANUS MANAGES RANGE HOME ECONOMICS

MANSFIELD, Ohio — Appointment of Miss Ruth Whitwell McManus as supervisor of range home economics for the Westinghouse Electric & Mfg. Co. is announced by Reese Mills, manager of the range division.

Miss McManus, who will make her headquarters here, was graduated from the University of Minnesota and served for five years as head of the Russell Miller Milling Co. home service department.

For the past year she has been working as home service director of the Buffalo office of the Westinghouse Co.

In heading up the range home economics department, Miss McManus will have charge of the model kitchen here and will direct the activity centering on range educational work for home economists and salesmen. In addition, she will continue the company's program of testing and developing electric cookery.

Utility Rents Ranges For 30 Cents a Week

HARTFORD, Conn.—For 30 cents per week plus energy charges at the regular rate, resident customers of the Hartford Electric Light Co. can now rent an electric range.

The range selected for rental is a specially designed table top model with four cooking units and an oven.

Beginning in February, the utility launched a campaign for free wiring of the first 500 installations applied for. In the first nine days of the campaign, 525 ranges were placed on a rental basis.

After the first 500 installations applied for, the wiring charge was $15 per range. Dealers are paid $5 per range commission for placing the rental.

Cookery Council Is Formed in Toledo

TOLEDO—Manufacturers, distributors, and dealers have organized the Toledo Electric Cookery Council, with E. F. Schmidt, new business manager of the Toledo Edison Co., as chairman.

Other officers include: R. H. Winters, Jr., of R. H. Winters & Son, Inc., secretary-treasurer; Roy Chandler, Chandler Hardware Co., Sylvania, chairman of the operating committee; R. Carrithers, H. G. Bogart Co., chairman of the promotion committee; and J. L. Berry, Electric Range & Equipment Co., chairman of the finance committee.

Member companies include: Standard Electric Stove Co.; H. G. Bogart Co.; J. W. Greene Co.; Electric Range & Equipment Co.; The Lion Store; Chandler Hardware Co.; R. H. Winters & Son, Inc.; H. Poll Electric Co.; and Plattner Electric Co.

Fan Campaign Planned By Westinghouse

EAST PITTSBURGH, Pa.—Westinghouse Electric & Mfg. Co. will open a concentrated sales drive on electric fans in June, with copy in five national magazines, specially prepared newspaper copy, and a variety of dealer helps forming the advertising and sales promotion artillery.

The announcement of the campaign to dealers is contained in a booklet titled, "Thar's Gold In That Mountin' Temperature."

MAYFLOWER REFRIGERATORS SHOWN IN PHILADELPHIA

PHILADELPHIA—Philadelphia Distributors, Inc., local distributor for Mayflower electric refrigerators, sent out invitations to dealers for a luncheon meeting to be held at the Bellevue Stratford hotel here March 15.

The display of the new Mayflower line is announced as the principal feature of the meeting.

RADIO SET EXPORTS DROPS 40% IN 1932

WASHINGTON, D. C.—Exports of American radio receiving sets and equipment declined more than 40 per cent in value in 1932 compared with 1931, according to a recent report made by the Department of Commerce.

Despite the large total decrease in exports of radio equipment, exports to 46 countries increased in 1932. The report follows in part:

"Exports of radio receiving sets and equipment from the United States during 1932 registered an increase over 1931 of $871,969 to 46 of the 103 countries to which sales were made, but exports to all countries declined from $22,635,154 in 1931 to $13,312,136 in 1932.

"Increased shipments of sets and equipment were noted to Belgium, Irish Free State, The Netherlands, Norway, Yugoslavia, Panama, Haiti, Bolivia, Colombia, Paraguay, China, Hong Kong, Netherland East Indies, Kwangtung, Palestine, Turkey, Australia, and Morocco.

"Shipments to Canada during 1932 declined nearly $3,000,000, compared with 1931, due in great part to the newly enforced regulation concerning the percentage of locally made parts that must be included in a Canadian-made set.

"Local manufacturing activity plus higher duties curtailed trade with Italy. The quota system in France accounted for the lessened trade with that country. Increased broadcasting activity in China is reflected in larger sales in that market, increasing from $206,405 in 1931 to $359,788 in 1932.

"British purchases of American radio equipment dropped from $2,641,065 in 1931 to $716,699 in 1932. The adverse effect of prices due to the exchange on silver is the principal reason for this decreased trade, though efforts of British manufacturers and patent holders to retain the market for local manufacturers have added this reduction.

"The principal loss in a market where domestic competition is not serious was in Argentina, where exchange is denied by government fiat for luxuries—radio being so classed for that purpose—the total declining from $2,420,880 to $1,463,332."

AUTO RADIOS LIABLE TO 2% TAX ON ACCESSORIES

WASHINGTON, D. C.—Automobile radio receiving sets are liable to the 2 per cent tax on automobile accessories instead of the 5 per cent tax on certain component parts of radio sets, according to a ruling issued recently by the Bureau of Internal Revenue.

Automobile radio sets specially and primarily adapted for use in automobiles are considered automobile accessories within the meaning of section 606 (c) of the Revenue Act of 1932 and are taxable, when sold by the manufacturer, at the rate of 2 per cent, instead of the rate of 5 per cent under section 607, imposing a tax on certain component parts of radio receiving sets.

Under section 606 (c) of the act such radio receiving sets may be sold free of tax to a manufacturer of automobiles, who becomes liable for the tax in the same manner as the manufacturer if the sets are resold by him otherwise than on or in connection with, or with the sale of, taxable automobiles.

WESTINGHOUSE USES JIG SAW PUZZLES

EAST PITTSBURGH, Pa.—Westinghouse is capitalizing on the current jig saw puzzle craze as a merchandising medium for spreading the story of Mazda lamps.

Posters illustrating the highlights of George Washington's life form the pictures of the puzzles. The name, "Westinghouse Mazda Lamps" is worked into the die cut. Purpose is primarily institutional, to build up good will for the dealers.

NEW YORK HOTEL TO HOLD RADIO SHOW

NEW YORK CITY—The management of the Hotel Edison here has announced that it will sponsor a preview showing of 1933 radio models April 10 to 13.

The event will be held under the direction of Harry Goldman.

Several manufacturers of radios and electric refrigerators have signified their intention of exhibiting, Mr. Goldman states.

TEXAS DEALER TO SELL FAVORITE RANGES

SAN ANTONIO, Tex.—Graham & Collins Electric Co., dealer for Westinghouse electric refrigerators and other household appliances, has added Favorite domestic gas ranges to its line, according to Walter M. Graham, president.

PROPOSED CODE LETS DOWN BARS TO F-12

(Concluded from Page 1, Column 1)

of New York is hereby amended to read as follows:

(d) Refrigerant is the chemical agent *in the state or condition in which it is installed in the system* other than brine used to produce refrigeration.

Section 2. Chapter 10, article 18, section 222, of the Code of Ordinances of The City of New York is hereby amended and superseded to read as follows:

(a) Every part of any refrigerating system, except pressure gauges and control mechanism, shall be tested to at least the following pressures: Class A and B system containing over fifty (50) pounds of refrigerant shall be tested after installation and proved tight before being operated. A dated declaration of such test, signed by the tester, shall be posted in the machinery room.

* * *

Refrigerant	High Pressure Side	Low Pressure Side With Safety Valves	Low Pressure Side Without Safety Valves
Carbon dioxide	1,500	750	1,000
Ethane	1,050	520	760
Ammonia	300	150	225
Propane	250	115	175
Methyl chloride	155	80	120
Sulphur dioxide	135	100	100
Iso-butane	90	45	70
Butane	75	35	50
Ethyl chloride	30	15	25
Dichloromethane	12	12	12
Dichloroethylene	12	12	12
Trichloroethylene	12	12	12
Dichlorodifluoromethane	*180*	*100*	*135*

* * *

Section 3. Chapter 10, article 18, of the Code of Ordinances of The City of New York, is hereby amended by adding a new section to be known as section 222-a, and to read as follows:

§222-a Refrigerants such as dichlorodifluoromethane and other members of the fluoro halo derivatives of the aliphatic hydrocarbon group shall be subject only to the provisions of chapter 10 of the Code of Ordinances of The City of New York relating to non-irritant and/or non-flammable refrigerants, except when used in a room in which is located a device installed to employ an open flame when it shall be subject to chapter 10 of the Code of Ordinances of The City of New York relating to irritant refrigerants unless and except the room be adequately ventilated to the same extent as is required for machinery rooms in section 220-2 (a) to (e) inclusive.

Section 4. This ordinance shall take effect immediately.

Referred to Committee on General Welfare.

Note—New matter in *italics*.

2,000 G. E. WATER COOLERS ORDERED FOR RADIO CITY

NEW YORK CITY—Work was scheduled to start this month on the installation of 2,000 General Electric water coolers in several units of Radio City, or Rockefeller Center, Inc., as it is officially known.

The order for these water coolers was obtained by the commercial department of Rex Cole, Inc., New York City G. E. distributor.

New Electrolux Is Cooled By Air

(Concluded from Page 1, Column 5)

are a manual temperature regulator with a defrosting position, a new trigger type of release lever on each ice cube tray, and a two-temperature cooling unit.

The new line consists of models ED-30, ED-40, ED-50, ED-60, and ED-70. Prices are expected to be lower than previous water-cooled models in comparable capacities. A new style of cabinet top distinguishes new models from those of last year. Previews of the new line were recently made at the Mid-West regional gas sales conference at Chicago, and at the Southwest Gas Conference at Dallas. General announcement to the trade is scheduled for Saturday, March 18.

Mr. Sellman explains that the two-temperature evaporator has a lower section, surrounding the ice tray compartment, which operates at a constant temperature, while the cabinet-cooling section of the evaporator only operates when it is necessary. He claims that this system provides constant cabinet temperatures irrespective of heat entry through walls of the cabinet.

The lone installation connection now needed is that of ¼-in. copper tubing for the gas supply. This may be manufactured, natural, or bottled gas. The Electrolux can also be installed for electric operation, Mr. Sellman points out, by using an electric resistance heater in place of the gas burner.

Although full details have not been announced about operation of the new air-cooling system, it is known that it employs hydrogen gas and ammonia in a hermetically sealed system of steel parts similar to last year's models. More than 300,000 Electrolux refrigerators are now in use, new literature of the company states.

Key specifications of the five air-cooled models follows:

Models	ED-30	ED-40	ED-50	ED-60	ED-70
Shelf area (sq. ft.)	6.7	8.0	9.0	9.9	12.2
Ice cube trays	3	3	3	4	4
No. of ice cubes	36	36	48	60	60
Height (in.)	52½	54⅜	56⅞	61	64¾
Width (in.)	24½	24½	25½	27½	33
Depth (in.)	26¼	26¼	27⅛	28⅜	28¾

BITTAKER TO CONTACT NEW NORGE DEALERS

LOS ANGELES—Thor Pacific Co., Majestic distributor here, has appointed Floyd Bittaker of San Diego as its dealer contact man in the San Diego and Orange county territory.

FOUR FRIGIDAIRE CREWS TELL DEALERS 1933 PLANS

(Concluded from Page 1, Column 5)

party from the company's headquarters in Dayton.

Meeting was made up almost entirely of dealers, according to R. L. Wood, sales manager for the Wood organization and presiding officer of the convention.

A luncheon at the Lassen hotel was given for the visiting dealers by the Long company.

Roanoke, Va.

ROANOKE, Va.—Before an audience of more than 150 dealers and salesmen of the H. C. Baker Co., Frigidaire distributor here, F. R. Pierce, sales manager for Frigidaire Corp., conducted one of the company's 36 regional conventions March 6.

Attendance was better than in 1932 or 1931, H. C. Baker, president of the distributor organization, said. A plane brought sales motion pictures from New York City for the meeting.

Chattanooga, Tenn.

CHATTANOOGA, Tenn.—Entire refrigeration sales organization of the Tennessee Electric Power Co. attended the Frigidaire sales convention put on here March 7 at the Read House by a factory crew headed by H. F. Lehman, commercial sales manager.

Men from all sections of Tennessee were called into Chattanooga for the event, according to W. C. Campbell, manager of the commercial division of the utility.

Fort Worth, Tex.

FORT WORTH, Tex.—Three hundred dealers and salesmen of Frigidaire products in the Dallas and Fort Worth districts of Frigidaire Sales Corp. came to Fort Worth on March 7 for the company's spring convention, staged by a factory crew headed by George S. Jones, Jr., manager of the public utilities division. The meeting was in charge of P. M. Bratten, manager of the Texas organization.

Norfolk, Va.

NORFOLK, Va.—One hundred sixty-one members of the organization of R. F. Trant, Inc., Frigidaire distributor, met here on March 8 with F. R. Pierce, Frigidaire sales manager, and heard the company's sales plans for the remainder of the year.

The 1933 commercial selling program was presented by R. B. Ambrose, retail commercial manager, and the outlook for air conditioning was given by R. W. Pocock, according to R. F. Trant, president of the distributorship.

Oklahoma City

OKLAHOMA CITY—Three hundred members of the Frigidaire distributorship of W. C. Dance came here from all parts of Oklahoma on March 8 for a convention directed by J. J. Nance, Frigidaire's manager of sales planning.

Mr. Dance told Mr. Nance that the prospects for air-conditioning equipment and commercial equipment in the Oklahoma territory will be cultivated this year extensively.

Baltimore

BALTIMORE—Two hundred fifty Frigidaire dealers and salesmen in the Baltimore-Washington, D. C., territory of Frigidaire Sales Corp. attended a convention conducted here March 10 by a factory crew headed by F. R. Pierce, sales manager of the corporation, and presided over by E. B. Dorsee, manager of the district. Representative business men and bankers attended the convention as guests of Mr. Dorsee.

Atlanta

ATLANTA—Frigidaire dealers and salesmen in Georgia, North Carolina, South Carolina, and sections of Tennessee were given the 1933 sales program of the company on March 9 at a convention in the Shrine Mosque here, conducted by a factory crew headed by H. F. Lehman, commercial sales manager. A. F. Eichenlaub, district manager of Frigidaire Sales Corp., presided.

At the close of the convention session, members of the sales force framed a resolution which was sent to H. W. Newell, vice president in charge of sales, pledging their cooperation in the company's sales program.

Orders taken before the convention were collected in baskets and carried to the stage during the meeting.

Houston, Tex.

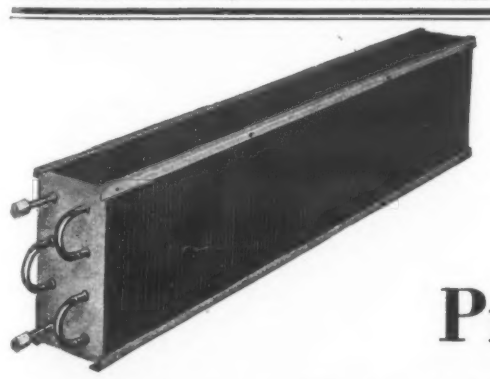
HOUSTON, Tex.—Dealers and salesmen of Cox and Blackburn, Houston Frigidaire distributor, attended the spring rally held here March 9 by a factory crew headed by George S. Jones, Jr.

Members of the district who qualified for the B.T.U. Quota Club Congress were honored at a luncheon where Mr. Jones presented awards to them, according to E. A. Cox, president of the distributorship.

LEONARD DEALER SCHOOLS HELD IN 7 CITIES

DETROIT—R. I. Petrie, general sales manager, and A. M. Taylor, merchandising director of the Leonard Refrigerator Co. here, are conducting retail schools this week in New Haven, Providence, Boston, and Portland, Me.

Last week, schools were held in New York City, Philadelphia, and Washington, D. C. Accompanying the two Leonard officials on the eastern tour is J. J. O'Neil, new business manager of the Refrigeration Discount Corp.



Coils that are a Distinct, Proven Asset

Now Over 38,000 Larkin Coils in Daily Use

MECHANICAL Refrigerated 5' or 7' Back Bunker Grocery Boxes when Model GM LARKIN COIL equipped are assured of less dehydration and defrosting; less fuel use; negligible servicing.

GM is but one of 95 Models and Sizes of LARKIN *original* 100% Vertical Surface Aluminum Plate COILS.

A COIL for every purpose. Proven by countless tests. Immediate deliveries on regular and special sizes.

STANDARD FACTORY EQUIPMENT WITH

COPELAND : SERVEL : WILLIAMS ICE-O-MATIC : CARRIER - BRUNSWICK - KROESCHELL : MAYFLOWER : UNIVERSAL : KULAIR : ZEROZONE : M & E : MODERN : STARR : MOHAWK : APEX : DICELER : LIBERTY : H. M. Robins Co., *Export and Others.*

LARKIN
Refrigerating Corporation
Originators and Manufacturers
ATLANTA, GA., U.S.A.
U. S. PATENT No. 1,776,235

100% VERTICAL SURFACE
LARKIN COILS

LOOK

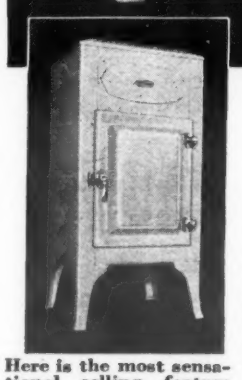
The SHELVADOR

U. S. PATENT 1898922

An exclusive patented feature of the

New CROSLEY Electric REFRIGERATOR

See at a glance the wonderful convenience of the SHELVADOR



Here is the most sensational selling feature ever thought of in ELECTRIC REFRIGERATION . . . the most sensational advance in cabinet design since the first ice-box was brought out . . . a feature so self-evident, so new, so convenient and helpful that every housewife after one glance will say: *"That's what I must have!"*

NOW the housewife merely opens the door . . . and *there* is the egg, bacon or the orange, or the butter, or any other small and ordinarily hard-to-find thing. It's on its shelf in the door. No reaching. No searching. No stooping. No lost time. No spilled food. *There* is what *you're* looking for.

Increases "Usable" Capacity 50%

Shelvador makes the "small" refrigerator "larger" by increasing its usable capacity. Try to put everything that goes into the Shelvador into your refrigerator and you'll be amazed. An orange takes as much "shelf room" as a bottle of milk in the ordinary refrigerator. . . in the Shelvador it only takes as much room as an orange should.

An Exclusive Crosley Feature

Shelvador is the newest and most important improvement in electric refrigeration since the invention of this great home necessity. To buy an electric refrigerator without the Shelvador is not only to deprive oneself of the great convenience and economy of Shelvador, but is to buy something already outdated. For no electric refrigerator can possibly be modern in the fullest sense without this feature.

SHELVADOR is an exclusive, patented feature of the new Crosley Electric Refrigerator. No other refrigerator manufacturer dare use it.

Low Cost—High Quality

When you buy a Crosley Electric Refrigerator, you not only save money on first cost, because of Crosley's quality-mass production methods; but you also save money because of the greatly enlarged "usable" capacity of the Crosley Electric Refrigerator due to the Shelvador. If the Crosley Electric Refrigerator did not have the Shelvador, it would still be the world's most remarkable refrigerator value. With the Shelvador, it goes far beyond the ordinary concept of "your money's worth" that there is nothing with which the value may be compared.

The Crosley Electric Refrigerator, famous last year for its trouble-free, service-free operation, has this year been refined in several points to make it even better. It is not possible, at any price, to get a better refrigerator value than the Crosley. It is not possible, in any other refrigerator to get the Shelvador.

See your dealer. Study the Shelvador. Instantly you can see its advantages and convenience. Instantly you can see how annoying and unnecessary it is to have electric refrigeration without the Shelvador.

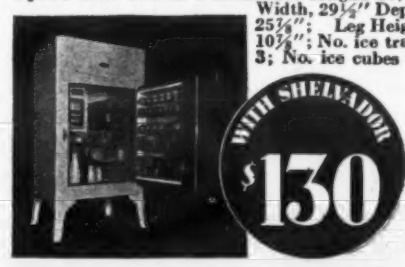
MODEL D-35 NET contents — 3½ cubic feet. Shelf area—8 square feet. Overall Dimensions: Height, 50⅝". Width, 23⅜"; Depth, 24"; Leg Height, 10⅞" No. ice trays 2; No. ice cubes 42.

WITH SHELVADOR $95

MODEL D-45 NET contents — 4½ cubic feet. Shelf area—10.6 square feet. Overall Dimensions, Height 56⅞"; Width, 23⅜"; Depth, 24"; Leg Height, 10⅞" No. ice trays 3; No. ice cubes 63.

WITH SHELVADOR $105

MODEL D-60 NET contents—6 cubic feet. Shelf area—11.5 square feet. Overall Dimensions: Height 57½"; Width, 29½" Depth, 25⅞"; Leg Height, 10⅞"; No. ice trays, 3; No. ice cubes 63.



WITH SHELVADOR $130

ALL PRICES INCLUDE DELIVERY..INSTALLATION..ONE YEAR FREE SERVICE

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.

The Crosley Radio Corporation - Cincinnati
POWEL CROSLEY, JR., President. The Home of "the Nation's Station"-WLW

CROSLEY Electric REFRIGERATOR WITH SHELVADOR
U. S. PATENT 1898922

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Time for Action

FRANKLIN D. ROOSEVELT has captured the imagination of the American public as has no man since Colonel Lindbergh. Chief difference is that homage paid the Lone Eagle had little cash value to anyone; whereas the high regard in which the American people hold their new president may be the means of helping the nation regain economic sanity.

From all quarters has come the cry: "Give us a leader." And it's our notion that one reason for the lack of confidence which has been so big a factor in the depression was that the public had lost confidence in all its so-called "big" men, and that no new leaders appeared to regain their allegiance. The Insulls and Kreugers were broken and discredited, the Morgans were silent, and the "prosperity is just around the corner" brayers supplanted the mother-in-law and the Model T as our national jokes. President Roosevelt, however, has been bold enough to convince the American public he is the man of action for which the crisis calls.

Action Inspires Confidence

Whether every move he makes is exactly and ultimately correct matters not so much right now as does the fact that he is making them. Almost anything is better than continued drifting; and the patience of most men has become so nearly exhausted that drastic action of practically any nature is hailed with relief and—in many cases—with sudden buying indulgences.

Almost as encouraging as the confidence the American public is manifesting in President Roosevelt is the evidence supporting the view that we have at last bumped the bottom in our dizzy, "bitter-end" deflationary descent. A run on gold, and its subsequent hoarding, has been the final stage of every previous depression in recorded history. That the February rush for gold will probably mark the end of our long deflation period is believed by many observers.

Hoard Goods, Rather Than Money

First came the conversion of securities into bank deposits. Came then a period of national thrift, in which goods were sold and the proceeds deposited in banks, and in which purchases of needed and wanted goods were foregone in order that bank deposits might be increased. There followed a conversion of bank deposits into currency—the first stage of hoarding. And then the wash-out, a frenzied attempt to convert currency into gold.

By governmental edict gold is now unobtainable. Moreover, additional currency has been issued, two billion dollars of it. And even though Secretary of the Treasury Woodin may assure every one that this new currency is sound money and adequately secured with good collateral, there is likely to follow a general feeling that the time has come for the conversion of currency into goods. If any hoarding is to be done, the so-called "smart money" which precipitated the national banking holiday may reason that it will be wiser to hoard goods than a currency which has been expanded and which is not at present redeemable in gold.

Prices May Be Rising

Appeals to patriotism have proved useless in the prevention of hoarding. Rising prices (already retail food prices have jumped in several localities, and many wholesale price indexes are now higher), however, will undoubtedly bring currency out of hiding.

A third reason for believing that an upswing may be at hand is President Roosevelt's determined effort to effect sweeping government economies and balance the budget.

Immediate prospects for a boom in electric refrigeration sales are best evaluated by industry chief executives who speak for themselves on page 1 of this issue. From these statements we should like to quote the following significant remarks:

What Leading Executives Say

"Our distributors state that there will be greatly increased purchases of refrigerators with resumption of national currency as prospects will now have a better appreciation of the excellent value of a refrigerator as against other investments."—P. B. ZIMMERMAN, General Electric.

"Because of the improvement in the national outlook for business, Frigidaire is going through with its entire program of sales activity and advertising, and is not curtailing its activity one iota."—H. W. NEWELL, Frigidaire.

"A wave of buying, during which the American public will exchange its money for manufactured commodities because it wants to and needs to, is anticipated by Kelvinator Corp."—GEORGE W. MASON, Kelvinator.

"The desire for electric refrigerators is so wide-spread that our industry should be one of the first to feel the benefits of the changed conditions."—HOWARD E. BLOOD, Norge.

"We view the future with greater confidence than at any time in the past two years."—B. J. GRIGSBY, Majestic.

Extra Hours of Sales Effort

Basing their hopes and efforts on these ringing statements by the executives of the companies with which they are affiliated, salesmen have reason for planning extra working hours for ensuing weeks.

Not everybody was caught by the banking holiday, and there should be hundreds of prospects who are feeling relatively well off during these times. Assiduous canvassing may yield good results in the selling season now at hand.

WHAT OTHERS SAY

THE PLACE OF CHEAP REFRIGERATORS

IN connection with a report on the sale of electric household refrigerators last year, published in the ELECTRIC REFRIGERATION NEWS of Detroit, a statement is made that is of particular interest to all those who are engaged in the production or sale of refrigerators, whether mechanical or ice. This statement, briefly, is that the voluminous publicity given low priced units selling in the neighborhood of $100 has exaggerated their importance, that these low prices did not produce great volumes of sales and that a good share of the buyers finally decided upon models of larger capacity and better construction.

The point has been made in these columns before that in the long run quality merchandise will meet with greater favor from the buying public than that made to sell at a price. Satisfaction and stability over a long period is more to be desired than the saving of a few dollars by unwise economy. Buyers of household electric refrigerators last year showed that they were wary of merchandise about whose performance they knew little or nothing.

Decreased production costs, enabling the manufacturer to pass legitimate economies on to the consumer are not to be criticised. But in the race to establish lower and lower prices it is inevitable that quality should be sacrificed. It is fortunate for the electric refrigeration industry that the public seemed to know what it was doing when it did not absorb large volumes of the cheaper contraptions last year.

As time goes on it will be seen more and more that the ice industry is standing on solid ground when it advocates the sale of graded and tested refrigerators. There should be no place in the industry for a refrigerator whose chief sales appeal is a low price. The electric refrigeration industry has found this merchandising device of no value except as a leader. This fact should make the ice industry more determined than ever to stick to refrigerators that will provide good service and in the sale of which price is a secondary consideration.—*Ice and Refrigeration*, March, 1933.

LETTERS

Oh, Yeah?

F. D. Pitts Co., Inc.
566 Commonwealth Ave., Boston.
March 2, 1933.

Editor:

With this letter, I am giving you some information relative to our activities on a dealer meeting, which I kindly ask if you will be good enough to insert in your next issue, together with any or all of the photographs which I am sending you, under separate cover.

It is very vital to our interests that you cooperate with us at this particular time in this publicity because it not only serves as news to the readers of your worthy magazine but it also shows that type of cooperation which Mr. Grunow expects from those magazines in which he plans to conduct extensive advertising campaigns.

Copies of all of this publicity is sent by the writer to Mr. Grunow, personally, who is a very good friend of mine, and I urge you to cooperate with us by giving this information generous publicity in your magazine and I can assure you that as a result of your cooperation I will make every effort to have Mr. Grunow cooperate with you relative to the placing of his national advertising.

Will you kindly advise me at your earliest convenience if we may be assured of this cooperation on your part?

F. D. PITT,
President.

About Parker

John Perry Wood
Attorney & Counsellor at Law
458 S. Spring St., Los Angeles
March 3, 1933.

Editor:

Mr. R. P. Mason, receiver of Parker Ice Machine Co. of San Bernardino, Calif., has consulted us regarding your issue of Dec. 28, 1932, page 6, wherein you list "Parker Ice Machine Co." as a company which has ceased manufacturing household electrical refrigerators and in which you state that H. C. Parker, Ltd., are now making Parker ice machines.

The information received by you is not correct.

R. P. Mason, Federal receiver in equity for Parker Ice Machine Co., is conducting the business of Parker Ice Machine Co. and is selling the Parker ice machines.

H. C. Parker, Ltd., is not making and never has made the Parker ice machines. H. C. Parker, Ltd., does not represent Parker Ice Machine Co. nor its receiver and is not in any way connected with the Parker Ice Machine Co. or its receiver.

D. J. Missmer of 2418 Santa Fe Ave., Los Angeles, is the Los Angeles representative of Parker Ice Machine Co. and its receiver.

We must request that you immediately correct the error that has been made through your columns and that the correct information be given to your readers.

STANLEY ARNDT,
Attorneys for R. P. Mason, Federal receiver in equity for Parker Ice Machine Co.

Excellent Report

N. K. Ovalle, Inc.
General Electric Distributor
212 N. Second St., Harrisburg, Pa.
Feb. 28, 1933.

Editor:

We would like to procure 110 copies of the Feb. 22 issue of ELECTRIC REFRIGERATION NEWS.

This particular issue contains a most comprehensive resume of the General Electric Cleveland convention and it is our intention to distribute these to all of our associates that they might get the complete Cleveland story from your excellent report.

W. M. HUTCHISON,
Manager, sales promotion division.

Every Word

Rex Cole, Inc.
General Electric Distributor
265 Fourth Ave., New York City
Feb. 28, 1933.

Editor:

You certainly did a splendid job in reporting the Big Parade Convention in ELECTRIC REFRIGERATION NEWS. I am reading every word of it with an abiding interest.

E. H. CAMPBELL,
Manager, sales promotion dept.

Thanks, 'Hap'

Pendergraph-Brown, Inc.
General Electric Distributor
719 Church St., Nashville, Tenn.
March 7, 1933.

Editor:

We are enclosing herewith list of dealers to whom I should like to have you mail Feb. 22 issue of ELECTRIC REFRIGERATION NEWS.

You may bill us for this as I am very anxious to introduce to them this splendid refrigeration newspaper. Most of them I believe would subscribe to it if they were familiar with the valuable information that it has for them and I believe it would help the dealers if they kept up fully with the affairs and happenings in the electric refrigeration industry. We will try to get them to subscribe to this paper as we call on them.

H. A. PENDERGRAPH.

Can't Be Beat

Edward A. Summer
Refrigeration Technician
136 Summer St., Bradford, Pa.
March 5, 1933.

Editor:

Though only a subscriber since the first of the year, I'll say this for your paper. All copies are filed and have their place on my shelf along with my textbooks so that I can refer to them when I want to.

I class them along with my service manuals and find them better, being more up to the minute.

Is there a national society of service engineers?

Your DIRECTORY can't be beat.

ED. A. SUMMER.

Prompt, Accurate

Philip H. Harrison & Co.
41 Central Ave., Newark
Feb. 23, 1933.

Editor:

We cannot endorse too highly your excellent publication, ELECTRIC REFRIGERATION NEWS.

On numerous occasions we have urged our dealers to subscribe to it and I believe a number of them are now on your lists.

In our fast-moving business, no one should take a chance of missing major events which you so promptly and accurately report.

T. E. BABSON,
Sales promotion manager.

Ice Compartment

Louisiana-Mississippi Ice Association
1418 New Orleans Bank Building
New Orleans
March 4, 1933.

Publisher:

Mr. L. L. Ferree, general manager of the Gulf Public Service Co. which operates a group of electric and ice properties in southern and central Louisiana, presented the following constructive thought in a recent letter addressed to the writer:

"We, as ice manufacturers, make a good product, and it occurs to me that it would be wise to cooperate with the mechanical refrigerator manufacturer, particularly since we are now trying to adopt some of his sales methods, and ask him to provide a compartment in the mechanical refrigerator where our ice; that is, ice of a high quality, could be kept on hand and used as required.

"My thought was not to discontinue the ice manufacturing compartment in the mechanical refrigerator, as this compartment has various other uses besides ice making. My thought was that in addition to the refrigerated compartment of the mechanical refrigerator there could be a space so designed to receive ice, either crushed or in one convenient piece, where it will be kept either refrigerated or under partial refrigeration, so that a high quality of ice could be kept available at all times, and it is still my thought that if this idea was properly presented to the mechanical refrigeration industry it would be given serious consideration.

"There is another thought that occurred to me that would be beneficial to the ice cream manufacturers who are members of our association. If it were possible for the mechanical refrigeration manufacturer to standardize on a uniform size of tray used in the refrigerated compartment of the mechanical refrigerator, then the ice cream manufacturer could make his product that could be delivered and placed within the trays of the mechanical refrigerator without the usual fuss and muss that is necessary now to store manufactured ice cream in the home."

Such a plan, to me, would seem to have several excellent features:

1. Better ice for the consumer.
2. By the inclusion of a drain and exposing sufficient surface of the ice, all odors would be carried out of the refrigerator, eliminating the necessity of buying and using dishes.
3. The inconvenience of manufacturing ice in the home would be avoided.
4. The inconvenience of removing cubes from ice trays would be eliminated.
5. Sufficient ice could thus readily be kept on hand.
6. The cost of the mechanical refrigerator might be reduced.
7. The current consumption would be reduced giving the user lower operating cost. The electric companies would actually lose little gross revenue since additional sales by the ice people would somewhat make up for this loss.
8. The cooperation between the ice and electric industries would be engendered and result in better public relations on the part of the electric industry to one of their largest customers.

I would like very much to know what you think about this suggestion.

WALTER F. COXE,
Secretary.

Old Fashioned Values, Honest Merit Again in Style, Executive Holds

By Harvey Lindsay, President, Dry-Zero Corp.

In the Jan. 11 issue of ELECTRIC REFRIGERATION NEWS, a majority of executive opinions expressed the belief that in 1933 quality and performance would be the most important factors in selling electric refrigerators.

This is particularly interesting in view of the fact that the Dry-Zero laboratory has just completed, after more than six months, a careful analysis of six leading makes of electric refrigerators.

The analysis includes ratings upon 12 items ranging from styling of the cabinet to the performance of the complete refrigerator.

The results are not flattering to the industry, for the completed analysis indicates that three of the six refrigerators are far more beautiful as pieces of kitchen furniture than they are efficient as receptacles for the preservation of foods.

The other three, I am happy to state, turned out to be good refrigerators as well as handsome bits of kitchen equipment.

Representative Policies

Although most of the tests were made to glean precise, practical information, the completed analysis of the six refrigerators presents something else of far greater import—a cross section of the policies of the six manufacturers, policies representative, without doubt, of the entire industry.

Judging the six manufacturers by their refrigerators—and what is fairer than to judge a manufacturer by his product?—we logically reach two conclusions.

One is that all manufacturers agree on the importance of styling, convenience, handsome hardware, and a good exterior finish.

The second is that the six disagree violently on the advantages of giving the customer an efficient, durable refrigerator. Three believe it pays. Three don't.

Products Speak for Makers

This is a strong statement, for which I may be criticised; yet it is evidently true, for I repeat that the products speak for their makers better than the makers speak for themselves.

The difficulty is understanding why the policies that mother three of these refrigerators exist, why the manufacturers think them best.

For these manufacturers are not in-and-outers. All have potent reputations built at great cost. They must believe their policies wise not only for 1933, but for the future.

Up until a few weeks ago, I thought these policies had grown out of the depression, that they were the natural result of attempting to bolster a weakening market by reducing prices through lowered quality.

Now, however, I believe they are due to a more deep-seated difficulty, a difficulty that has its origin in the days when the industry was young.

Rating of Refrigerators

Before going into this, let us gather an accurate picture of the things disclosed by the analysis of the six refrigerators as portrayed in the accompanying chart. Permit me to point out several highlights.

Note, first, that all six rate within 10 per cent of each other in convenience and within 20 per cent of each other from the standpoint of beauty and quality of finish. (Lacquer finishes only were judged.) In the matter of hardware, the greatest variation is 10 per cent.

From this it is obvious that those externals the public can see on the showroom floor are considered of equal importance by all manufacturers.

But now let us glance at some of the items that make an electric refrigerator an effective machine for the preservation of food.

In efficiency of refrigerating units, two of the six are only 50 per cent as effective as the three that rate the best. The other rates at 70 per cent.

In efficiency of insulation, three rate below 80 per cent and one at 70 per cent, of the best.

In efficiency of the complete refrigerator, two rate at 40 per cent of the best or below; two rate at 80 per cent; one rates at 90, and only one at 100. Four of the six, speaking liberally, may be considered reasonably good.

Operating Values

But when we look at the permanence of these operating values, we see that one of the better four loses caste because, in accordance with the life of its components, it will only last half as long as the best of the six. We also note that the two that offer only mediocre performance when new, rate well under 40 per cent in permanence.

Gathering all these facts together, we come to the conclusion I have already stated: that all six agree on the importance of beauty, convenience, and good exterior finish, while three, perhaps not intentionally, disregard the intrinsic worth of the complete refrigerator.

It even seems that these three don't mind having competitors build much better refrigerators.

The reason for this surprising situation, as I said before, is deep-seated and difficult to comprehend because it is even more fundamental than the price war that seems to be the obvious explanation. The answer, I think, is to be found in the history of the industry itself.

The electric refrigerator grew to manhood in the great era of super-salesmanship, super-advertising, and super-prosperity that existed from 1922 to 1929.

Fetish of Salesmanship

The fetish of this period was salesmanship, the ability to make people buy and buy and buy until the nation as a whole had purchased far more than it could pay for. The salesman's ability overwhelmed the normal resistance of the prospect. Merchandising skill commanded the greatest salaries paid.

The new knowledge of the psychology and mechanics of selling helped the electric refrigerator tremendously and was responsible for its swift rise. As a specialty it needed this super-selling to break down the great resistance met by every new product.

Sales went to the manufacturers with the smartest, biggest selling organizations and the shrewdest, most costly advertising campaigns. High-pressure selling became the keynote of the industry's success.

In Tune with Times

All this was in tune with the times. With a soaring stock market nobody worried about tomorrow. Many a hard-fisted old timer in many an industry was shoved into the discard by hard-driving, smart, cynical young men who could sell anything, anywhere.

Style, snap, cleverness were in great demand. Wise-cracking Jimmy Walker rode the crest of the wave, a super-salesman if ever there was one. The simple Golden Rule among men and lasting quality in merchandise were old-fashioned. Abe Lincoln couldn't have been elected mayor of Peoria.

We know what happened in 1929.

For a year business blindly refused to recognize that a change had come. Most conferences had to do with means of exerting greater selling pressure. Then a few industries and individual corporations realized that a change had come—that selling pressure wasn't enough—that to win you had to deliver the goods.

By the middle of 1932, the change had become so obvious that retail merchants shied sharply away from price as a primary sales appeal and began to talk quality at a reasonable price to offer genuinely better products at prices in line with current conditions.

Demand Improved Products

During the past year, the demand has been for improved products. Millions of dollars have been spent to make products better.

These things have brought a return of fundamentals of business policy vastly more important than high-pressure selling. How different is indicated by the chairman of the board of one company who recently, as an article in *Advertising & Selling* reported, "came storming up the stairs which he had been kicked down in 1928, when he was 'too old to operate in a modern world,' dressed down his official family in these words, 'You men talk about business as though it was a collection of adding machines and invoices and pie charts. Did any of you ever start out to make a living for a family of five with nothing but a kitchen table and three paper bags of powdered chemicals and two tumblers and a couple of teaspoons? Well, that's how this business was started back in 1889. I had to think in terms of what I could do for my neighbors that would be worth some of their hard-earned money'."

Such men as these have a sense of values gained in the years before the 1922-29 prosperity era, years that are akin to those of today. They have a way, says Robert Updegraff, of cutting through the mechanics and methods and red-tape of business, as it has become so wonderfully organized, or one might say, over-organized, and striking the bedrock of service and profits. That's why so many of them are returning to take over the helm of businesses staggering under the management of boom-trained executives.

Ask Jimmy Walker

Good salesmanship and good advertising are not only important but necessary. But today, without goods of high comparative merit, intrinsic and demonstrable, those two factors cannot make money.

Salesmanship has once again become a vehicle—not an end in itself. That is the fundamental change that is not yet realized by manufacturers of refrigerators such as the three so clearly lacking in essential qualities.

Ask Jimmy Walker—he found out!

INDUSTRY LEADERS SEE ERA OF SELLING

(Concluded from Page 1, Column 4)

normal business requirements. We view future with greater confidence than at any time in past two years.

B. J. GRIGSBY,
President, Grigsby-Grunow Co.

H. J. Hunt

Telegram
Dayton, Ohio.

Editor:

We believe it is necessary to have controlled currency inflation for business recovery. Naturally this will increase the public's buying power in refrigeration as well as all other commodities.

H. J. HUNT,
President, Trupar Mfg. Co.

Harvey B. Lindsay

Telegram
Chicago, Ill.

Editor:

First, suggest quit misuse of word inflation. For 10 years the country has had 40 to 50 billion dollars bank deposits and only five to six billion money to pay with, balance being promises to pay secured on country's business. Additional currency properly controlled simply is tangible evidence that entire wealth of America is security for sound circulation. With Roosevelt taking definite steps toward balancing national budget and states and cities following suit, I definitely believe present situation promises quickly to develop active buying, and electric refrigerators should be among leaders if honesty of essential quality is insisted on. Otherwise, in any industry, I wish to point out emphatically the danger of profiteering in rising prices. I urge that the nation's business work toward general stabilization of good prices rather than boom opportunism through selfish greed. This applies definitely to ELECTRIC REFRIGERATION NEWS to keep that industry on true and profitable course.

HARVEY B. LINDSAY,
President, Dry-Zero Corp.

Crosley Out of City

Telegram
Cincinnati, Ohio.

Editor:

As Mr. Crosley is out of city, we are unable to provide statement requested.

The Crosley Radio Corp.

'Experts' Have Nothing To Say

Telegram
Philadelphia, Pa.

Editor:

Retel. Unable furnish opinion at this time for publication.

C.C. PARLIN,
Curtis Publishing Co.

Telegram
Cambridge, Mass.

Editor:

Present situation so confused impossible to express opinion.

MALCOLM P. MCNAIR,
Professor of Economics, Harvard University.

Telegram
Cambridge, Mass.

Editor:

Regret unable to issue statement such as you request.

WALLACE B. DONHAM,
Dean, Harvard School of Business Administration.

Telegram
New York City, N. Y.

Editor:

Must ask you to excuse me from predicting effect of currency inflation or expansion on your industry. It is not the policy of the *Times* for its editors to indulge in such personal prediction.

A. D. NOYES,
Financial editor, *New York Times.*

Telegram
Babson Park, Mass.

Editor:

Retel. Regret that Mr. Babson is away. Unable personally to answer you.

C. J. MCCULLOUGH,
Secretary, Babson Institute.

MAXWELL GIVES TALK ON EDISON INSTITUTE PLANS

BOSTON—While it is intended that the new Edison Electric Institute shall function principally on a national basis, it is hoped that the organization will have "a lively and sympathetic liaison" with regional bodies, said Alexander Maxwell, director of engineering at New York headquarters, when addressing New England utility engineers here recently.

Recommendation has been made by the operating committee for formation of 10 groups to deal officially with rates, insurance, power generation, transmission and distribution, electrical equipment, sales, accounting, statistics, codes and standards, although meetings of old committees are planned until complete reorganization has been effected.

It is planned that a number of individual members shall be admitted to the institute, said Mr. Maxwell, on a dues basis equivalent to that of national professional societies.

Our Error

A story appearing in the Feb. 8 issue of ELECTRIC REFRIGERATION NEWS concerning the new Westinghouse motor-driven brush vacuum cleaner stated that "it lists at $10." The correct list price is $40.

A FACT THAT 10 YEARS IN THE REFRIGERATION INDUSTRY HAS TAUGHT US

When is a GUARANTEE *. . . Destructive?*

We believe that a guarantee is destructive when it imposes a service obligation on a dealer out of line with his profits, selling cooperation and sales efforts. Such a guarantee is ultimately destructive to the manufacturer, dealer and the industry in general. We have taken these factors fully into consideration in formulating our own guarantees.

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN — BRANTFORD, ONTARIO

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION EQUIPMENT

ENGINEERING

HYDROGEN WELDING USEFUL FOR MAKING REFRIGERATOR PARTS

By W. W. Anderson
President and General Manager,
Bundy Tubing Co.

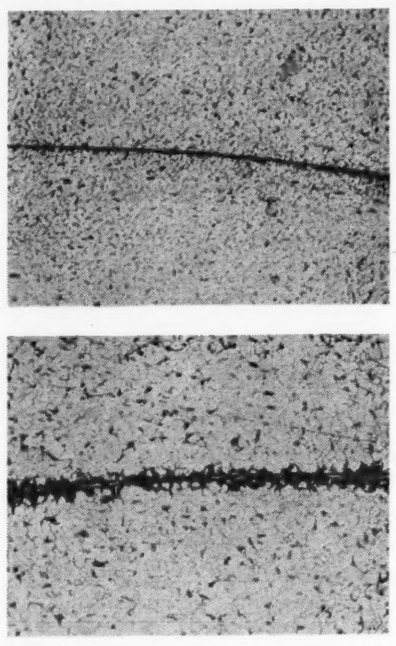
Perhaps few people know that the hydrogen-electric-welding process was developed for the refrigeration industry—or perhaps it would be even more correct to say that it was developed by the industry for its own use, because it actually was originated and perfected by one of the largest refrigerator manufacturers in the country.

Yet there seems to be a haze of misconception about just what this spectacular process is and how it can be used.

Copper hydrogen-electric-welding, to call it by its full name, is a process which is as modern and progressive as electric refrigeration itself. It places welding along side other automatic, continuous, quantity production processes.

Copper hydrogen - electric - welding should not be confused with torch, arc, or any other type of welding in which the molten metals are fused together. In hydrogen-welding there is no fusion; no apparent application of metal at the seam. As a matter of fact, the process is carried on at a temperature which is well below the melting point of iron or steel. It is an entirely new process and produces a weld with new and different characteristics.

Magnified 100 Times



Top photomicrograph shows two pieces of steel ready for welding. Below is the seam after welding, showing how the copper-iron alloy (in black) extends into the grain structure.

Copper hydrogen - electric - welding may be applied to practically any product made of either iron or steel. The parts to be welded are assembled by a snug fit, either by inserting one part into the other, or by spot welding or pinning the parts together. Copper either in the form of copper wire or copper paste is applied at the joint and the assemblies are loaded onto cars which are automatically elevated into the hydrogen-filled heating zone of the furnace.

The hydrogen atmosphere reduces all oxides, scale, and other foreign matter on the surface of the parts, and provides chemically clean surfaces for the welds.

In the heating zone, the parts are gradually brought up to a maximum temperature of 2100° F. This melts the copper which is drawn by capillary attraction both upwards and downwards into the seam. To most readers it would probably seem that the pieces of iron or steel would simply be soldered or "pasted" together by the molten copper. This, however, is exactly what does *not* happen.

Actually, the iron and copper alloy together. Some of the copper goes into solid solution in the steel and some of the iron is dissolved by the copper to produce an integral copper—iron alloy bond between the parts (approximately 97 per cent iron, 3 per cent copper). Under normal conditions no free copper remains between the parts.

As this process is accomplished with no external application of metal, the weld is hardly perceptible, so that a very natural question which arises upon examining a hydrogen-welded part is, "Just how strong are these welds?" *They are actually stronger than the steel itself!* This fact has been proved in a number of tensile, compression, shearing, and bursting tests.

For instance, a steel tank assembled from a length of tubing, two stamped end plates, and a screw - machine threaded fitting with all joints hydrogen-welded, burst at 2200 lbs. of hydraulic pressure, but there was no failure of the hydrogen-welded seams at any point.

Two pieces of ⅝-in. bar stock were pieced together with a 45° hydrogen weld. Under 66,000 lbs. per sq. in. tensile stress, the steel itself failed but the hydrogen-welded joints remained intact.

A round pin was inserted and hydrogen-welded into a hole drilled in a piece of flat steel. Torque was applied to the pin until it twisted in two—but it was impossible to rupture the hydrogen-welded joints.

One of the features of the hydrogen-welding process in the manufacture of electric refrigerators and allied products is the cleanliness of the welded parts. As they are not only heated but also cooled to practically room temperature in a reducing atmosphere, they emerge from the furnace clean and free from scale or oxides *both inside and out.*

It is easy to see how this might be an advantage in the case of such enclosed objects as tanks, headers, floats, etc., which would be very difficult if not impossible to clean after assembly. By assembling such products from tubing, drawn shapes, stampings, and previously threaded fittings, it is possible to eliminate the nuisance of chips from drilling and threading operations.

Where permanent gas-tightness is as important as it is in the refrigeration industry, the elimination of assemblies involving a number of threaded joints is highly desirable. Just how this is accomplished by means of hydrogen-electric-welding is shown in the photograph of the sectional view of the float chamber.

Two fittings and the bottom plate were welded into the drawn shell, and a tube and strainer-screen were welded into one of the fittings—all in one passage through the furnace. Small crankshafts, camshafts, levers, etc., which would ordinarily be machined from expensive forgings may be produced simply by welding together such inexpensive parts as stampings, bar stock, drawn shapes, etc.

No assembly seems too intricate for this process, if the parts can be fitted together with good contact and there is the chance to apply copper in some form at or near the joint.

What does this welding process at 2100° F. do to the metal? The obvious affect, of course, is a dead anneal, which in most cases is highly desirable as it relieves the parts from any strain which might have been set up by such previous processing as drawing, shearing, machining, etc.

However, the condition may be corrected when desired by any of the usual heat-treating methods, without in any way affecting the weld. As a matter of fact this is one of the best proofs that the bond is considerably more iron than copper; its melting point is practically that of steel, and the part may even be run through the welding furnace the second time with no effect upon the weld.

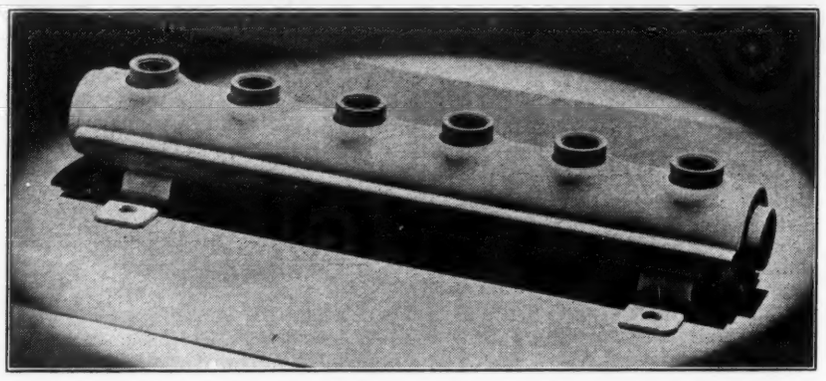
One of the salient points in connection with the process and one which is demanding attention of the industry today is that hydrogen-welding is decidedly *welding on a quantity production basis!*

The Bundy furnace is capable of handling as many as a thousand pieces at one time (size is the only limit) and it is entirely possible that every one of these pieces might involve a dozen or more welds.

At normal operating speed the furnace discharges a car of welded parts every four minutes—and it is capable of 24-hours-a-day operation.

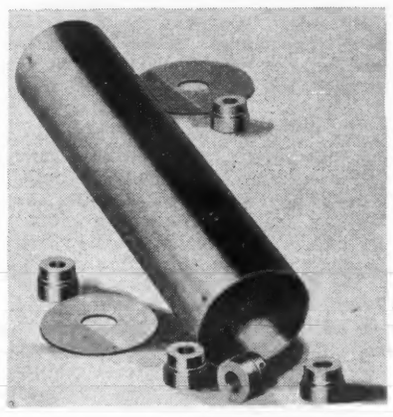
One of the advantages claimed for hydrogen-welding is economy. By this is meant not only economy of the process itself because of its automatic, continuous nature, but also savings in material and labor in producing the integral parts to be welded. Simple changes in design to adapt the product to the hydrogen-welding process often provide not only better appearance, cleanliness, lighter weight, and greater strength, but also lower cost.

Multiplicity of Welds



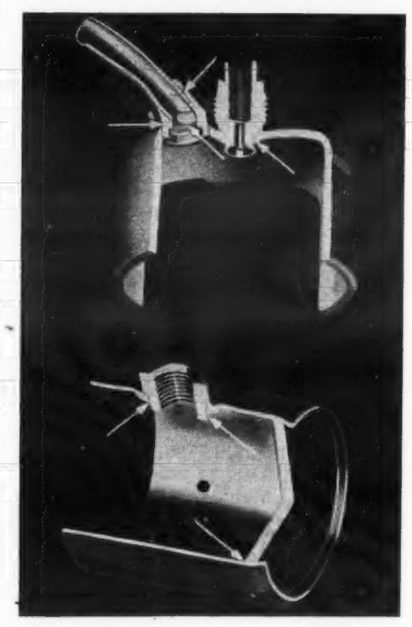
The body of this header was fabricated as two stamped and drawn halves. Eight screw machine bushings were inserted, brackets added, and the 12 necessary welds accomplished in one trip through the furnace.

Before Welding



With one passage through the furnace these parts will be welded into a gas-tight assembly.

Cross-sections



Sectional view of a float chamber (above) shows how numerous parts can be welded in one operation.

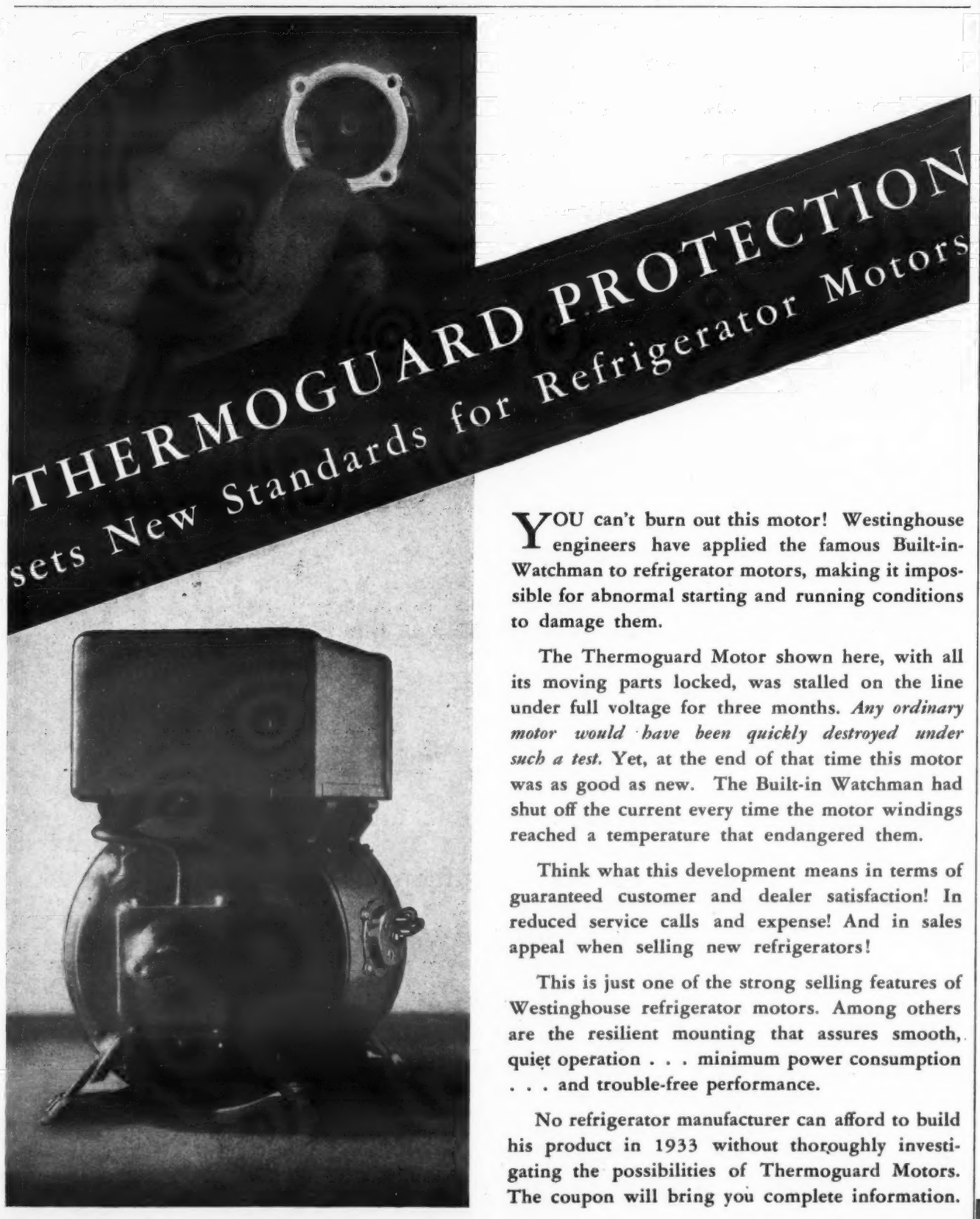
REDMOND BUILDS LINE OF 4-POLE SHADED MOTORS

FLINT, Mich.—A. G. Redmond Co. here is introducing to refrigerator manufacturers a line of small four-pole shaded type motors for driving condenser-cooling fans of household refrigerators, A. G. Redmond, president of the company, states.

As compared with the two-pole motor, which the company also makes, the four-pole design is considered better for refrigeration applications because of its inherent slow speed and greater range of power, according to Mr. Redmond.

Idle, the four-pole motor runs at 1700 r.p.m., while with the fan attached it has a speed of 1500 r.p.m. Power developed ranges from .01 to .025 hp. Motors can be supplied for voltages from 12 to 250 and for frequencies from 25 to 60 cycles.

Built on a ¼-in. shaft, the rotor is 1 13/16 in. in diameter, has skewed inductors. Bearings are designed to be self-aligning, and are made of a new type of bearing metal which absorbs oil. Oiled felt surrounding the bearings is claimed to supply oil for 5000 hours of operation.



YOU can't burn out this motor! Westinghouse engineers have applied the famous Built-in-Watchman to refrigerator motors, making it impossible for abnormal starting and running conditions to damage them.

The Thermoguard Motor shown here, with all its moving parts locked, was stalled on the line under full voltage for three months. *Any ordinary motor would have been quickly destroyed under such a test.* Yet, at the end of that time this motor was as good as new. The Built-in Watchman had shut off the current every time the motor windings reached a temperature that endangered them.

Think what this development means in terms of guaranteed customer and dealer satisfaction! In reduced service calls and expense! And in sales appeal when selling new refrigerators!

This is just one of the strong selling features of Westinghouse refrigerator motors. Among others are the resilient mounting that assures smooth, quiet operation . . . minimum power consumption . . . and trouble-free performance.

No refrigerator manufacturer can afford to build his product in 1933 without thoroughly investigating the possibilities of Thermoguard Motors. The coupon will bring you complete information.

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Quality workmanship guarantees every Westinghouse product

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Please send me information on the new Westinghouse Thermoguard Capacitor-motor for refrigerators.

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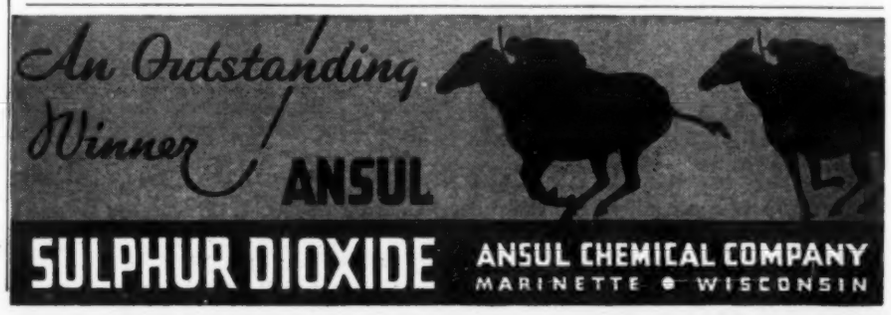


ENGINEERING

ENGINEER DESCRIBES THREE VARIETIES OF CAPACITOR MOTORS

By R. Ehrenfeld, Manager,
Small Motor Engineering Department,
Westinghouse Electric & Mfg. Co.

There are three varieties of the capacitor type of motor—the latest type to be produced commercially. These three types are:

1. Capacitor start.
2. Single-value capacitor.
3. Two-value capacitor.

In all of these motors there is a main winding and an auxiliary winding on the stator. All of the rotors are of the squirrel-cage type. In each case a capacitor is connected in series with the auxiliary winding, either directly or through a transformer.

The capacitor-start motor is the same as the split-phase motor except that a different design of auxiliary winding is used, and the capacitor is connected in series with this winding as has just been indicated.

When the motor attains a predetermined speed, the auxiliary winding is opened and the motor operates the same as the split-phase motor or repulsion-start induction motor.

If the windings and the capacitor of this motor are so proportioned as to give good running performance when the auxiliary circuit is not opened, the centrifugal switch may be omitted and the auxiliary winding and capacitor can remain connected to the line. This type of motor is known as single-value capacitor motor.

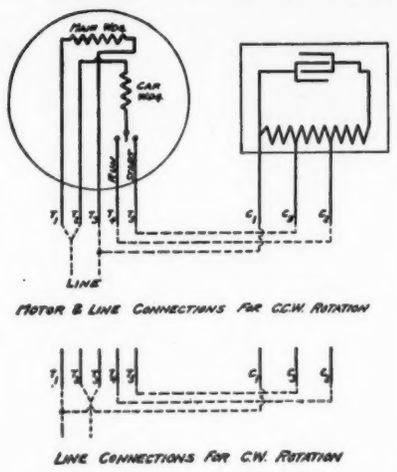
It is not possible to produce a motor and capacitor design which give both high-starting torque and good running performance without changing the connections to the motor or to the capacitor.

In such motor applications as blowers mounted directly on the shaft, the single-value capacitor motor is quite satisfactory. Sufficient starting torque can easily be obtained with an auxiliary winding design, and a capacitor which gives good running performance.

If it is necessary to obtain high-starting torque, and it is also desired to operate the motor with the capacitor winding energized, it is necessary to start the motor using one value of capacitance and change this value at a predetermined speed.

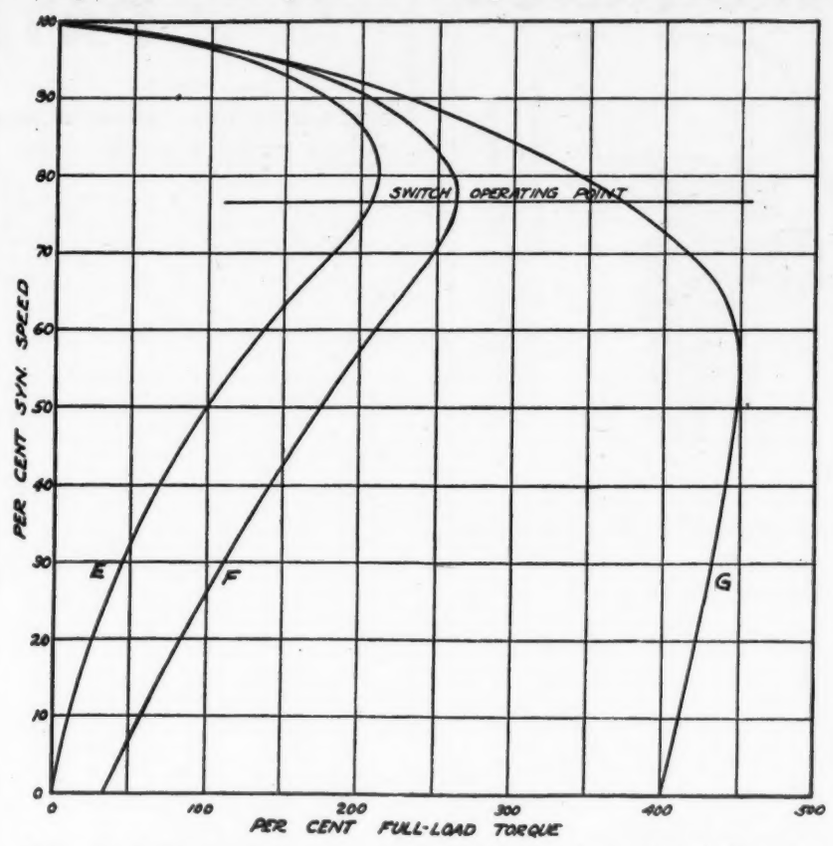
This is the motor which is known as the two-value capacitor motor. It has starting torques comparable with the starting torque of repulsion-start induction motors, but during normal running is similar to a polyphase motor due to the fact that power is being supplied to both of the stator windings.

Reversal Connections



For two-value, reversible capacitor motors.

Speed-Torque of Capacitor Motors



Curve E shows speed-torque characteristics of the main winding of a capacitor motor, F is for single-value capacitor motors, G shows performance with a capacitor designed for starting only.

Curve E on this page shows the speed-torque characteristics of the main winding of a capacitor motor. This is similar to curves A and C for split-phase and repulsion-induction motors shown on page 10 of the March 1 issue of ELECTRIC REFRIGERATION NEWS. If a capacitor is to be used only during the starting period, it (with the auxiliary winding) can be so designed as to give performance of curve G.

When the speed of the motor has reached the point where the switch which operates, the auxiliary winding is opened, the motor operates on the upper portion of curve E.

In cases where lower-starting torque is satisfactory, the single-valve capacitor motor is used, with a speed-torque curve such as curve F. If a two-value capacitor motor is used, it has a speed-torque curve which is a combination of curves F and G.

For the starting period, the value of capacitance is the same as for the capacitor-start motor, and the speed-torque curve is the lower portion of curve G. When the switch operates, instead of opening the auxiliary circuit it transfers the connections so as to reduce the capacitance of the capacitor to the proper value for the running condition, and the motor continues to run under normal operation in accordance with the upper portion of curve F.

In the motors just described, various switching mechanisms are required. It is essential that these mechanisms be capable of operating a great many times, and that their operation be positive. This latter requirement is particularly true in the case of a two-value capacitor motor.

If the switch hesitates between the two connections, the capacitor winding is completely disconnected from the line, and the torque of the motor is materially reduced.

This may result in a slowing down of the motor and result in the switch returning to the starting position instead of completing its operation and making the running connection.

The proper transfer of connections can be obtained only when this switching operation is performed quickly and positively with an action similar to that of a quick make-and-break switch.

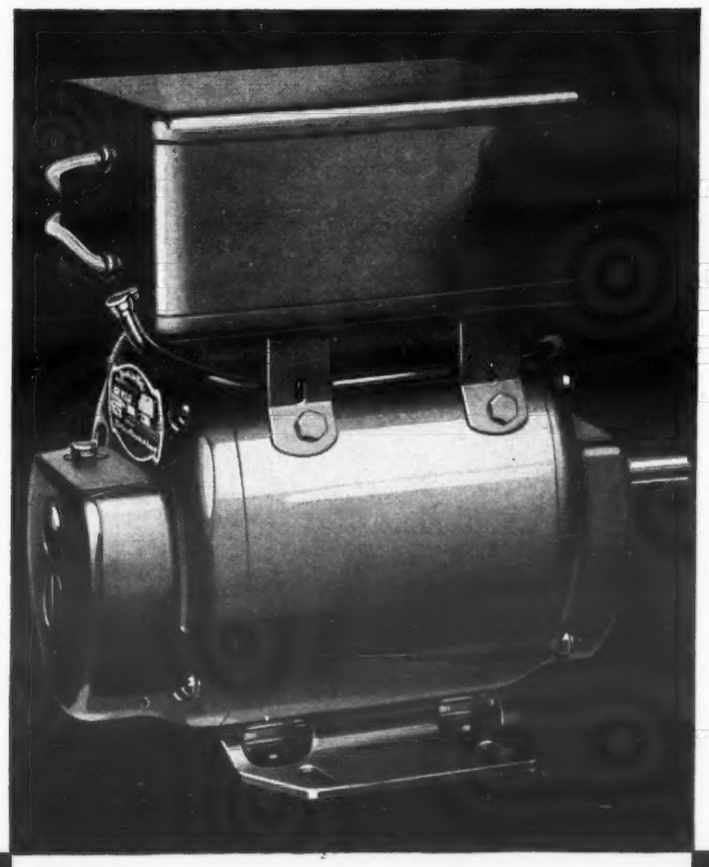
RENOVIZING TO FEATURE POWER SHOW

CHICAGO—With "renovizing" the theme word of the Sixth Midwest Engineering and Power Exposition to be held here during the week of June 25 to 30, exhibits at the gigantic show will feature equipment which may be used in modernizing mechanical facilities of power plants.

Given a prominent place on the program of refrigeration engineers meeting at that time will be the subject of rehabilitating or "renovizing" as a practical business proposition.

A REFRIGERATOR IS NO BETTER THAN ITS MOTOR

The motor that drives an electric refrigerator may be an insignificant factor in influencing the sale. It may never come up for attention, indeed, so long as it functions satisfactorily. Let it develop trouble, however, and at once it condemns the entire unit. Motor trouble is refrigerator trouble, in the eyes of the owner. He does not distinguish between the motor that you buy, and the compressor that you build. Almost invariably, he warns his neighbors to beware the refrigerator—not the motor—that has disappointed him. Insure against this hazard to owner satisfaction, by equipping with Delco motors. Delcos were developed expressly for electric refrigeration service. Every detail of their design has been worked out with careful regard for the special requirements of household performance. They are quiet. They require almost no attention. They comply with starting load regulations of electric power companies. They are built to uphold the finest reputation . . . and more than two million in electric refrigeration service today are making good.



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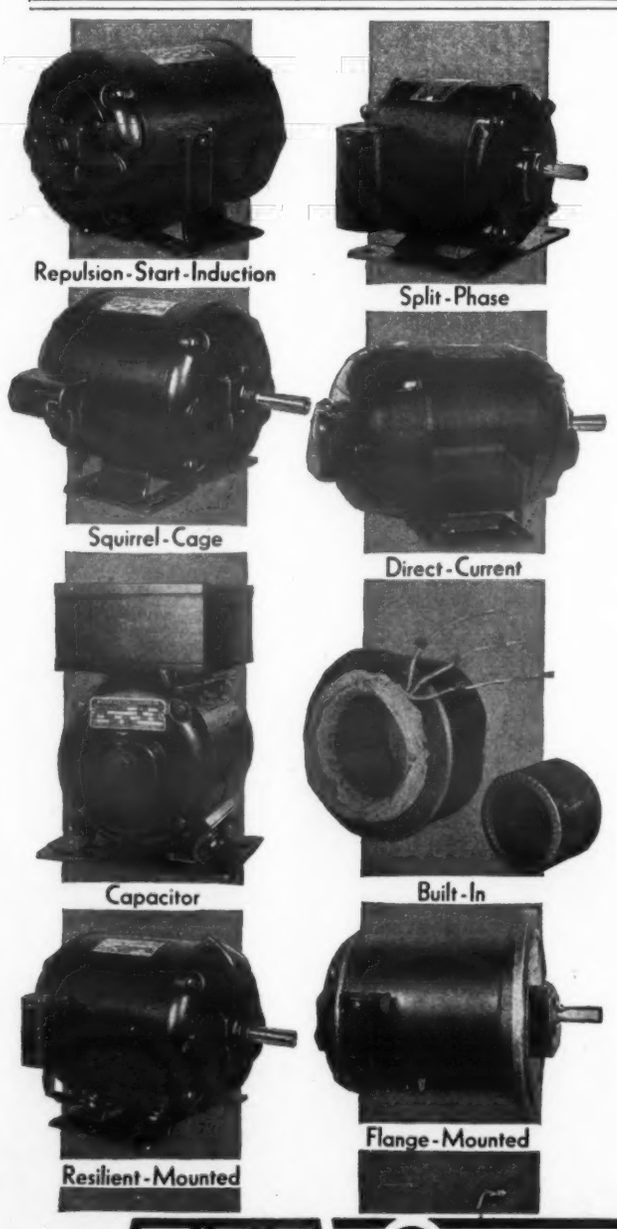


You can
Standardize on Wagner Motors

The Wagner line includes all types of small motors generally applied on refrigerators, making it possible for you to standardize on Wagner motors. Whether alternating or direct current; single or polyphase; open, drip-proof or totally enclosed; rigid or resilient-mounted, flange-mounted or built-in—there's a Wagner motor now in existence, ready to be applied on the job.

There are some 25,000 different type-horsepower-speed combinations of Wagner motors (in ratings of 1/30 to 400 hp). Certainly, your motor requirements can be met by the Wagner line!

For complete details, ask for Bulletin 167 describing Wagner small motors.

Wagner Electric Corporation
6400 Plymouth Avenue, Saint Louis, U.S.A.

MOTORS TRANSFORMERS **Wagner Electric** FANS BRAKES

S533-2

PATENTS

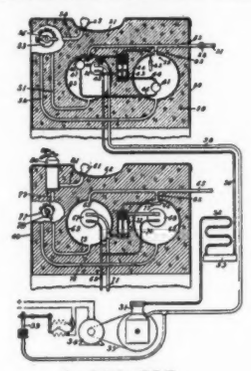
ISSUED FEBRUARY 28, 1933

1,899,007. RENEWABLE FILTER. Hans E. Birkholz, Chicago, Ill., assignor by mesne assignments, to American Air Filter Co., Inc., Louisville, Ky., a Corporation of Delaware. Filed Aug. 10, 1927. Serial No. 211,948. 10 Claims. (Cl. 183—71.)

1. In an air conduit means for inserting and supporting a sheet of filtering material across the conduit comprising stationary bars mounted in spaced relation, and frames slidably mounted on said conduit between said bars for shoving the folds of the material between the bars and supporting the folds in spaced relation.

1,899,013. REFRIGERATING APPARATUS. Robert R. Candor, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Nov. 29, 1930. Serial No. 499,040. 10 Claims. (Cl. 62—141.)

1. In a drinking water cooler, the combination of a unitary drinking water discharge device and means for securing the



1,899,013

discharge of water at various desired temperature from the discharge device including a source of drinking water, means of a substantially constant temperature for cooling a portion of the water, means for mixing variable ratios the cooled portion with another portion of water from said source of drinking water and discharging said mixed portions from the discharge device.

1,899,017. APPARATUS FOR FILTERING AIR. George S. Dauphinee, Brooklyn, N. Y., assignor to American Air Filter Co., Inc., Louisville, Ky., a Corporation of Delaware. Filed May 11, 1926. Serial No. 108,224. 11 Claims. (Cl. 183—21.)

8. In an apparatus for filtering air, the combination of a lower filter unit having baffling plates arranged to provide tortuous air passages and down-flow surfaces over which liquid supplied to the top of the unit will flow downwardly and be discharged at the bottom thereof, liquid supply means extending across the top of the lower unit to distribute the liquid in a multiplicity of fine streams, an upper filter unit overlying said lower unit, drainage means for the upper unit mounted over said liquid supply means of the lower unit, supporting members for said upper unit attached to and at the top of said drainage means, said unit supporting means being spaced apart to allow liquid to adequately drain from the upper unit into the drainage means, and means for removing the used liquid.

1,899,018. FILTER. George Scott Dauphinee, Brooklyn, N. Y., assignor to American Air Filter Co., Louisville, Ky., a Corporation of Delaware. Filed April 18, 1927. Serial No. 184,589. 8 Claims. (Cl. 183—76.)

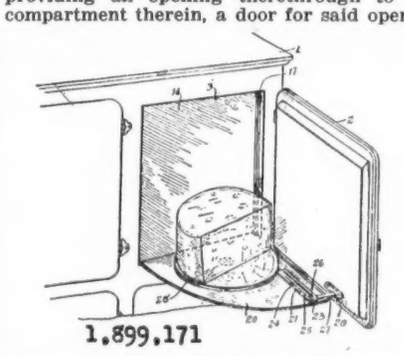
2. A filter unit for fluids having as one of its filtering media a member adapted to have its front and rear surfaces covered with a viscous film to retain the impurities present in the fluid being treated, and to be periodically cleaned by flushing with fresh viscous material, said member having its working surface provided with a series of relatively closely spaced fine slits having elongated closely disposed side edges, adjacent thereto alternate levels of material comprising a series of high levels and low levels, the latter constituting grooves, and with said slits providing reservoir means for the viscous material at the end of the slits and between said high and low levels.

1,899,036. REFRIGERATION. George E. Hulse, New Haven, Conn., assignor to The Safety Car Heating & Lighting Co., a Corporation of New Jersey. Filed Dec. 3, 1930. Serial No. 499,669. 22 Claims. (Cl. 62—117.)

1. In a refrigeration system, in combination, means forming a space whose temperature is to be regulated, means for circulating a fluid medium in said space, a reservoir for storing said fluid medium, a refrigeration unit employing a gaseous refrigerant and having an expansion member disposed in said reservoir in thermal contact with said fluid medium, an internal combustion engine adapted to run continuously for substantial periods of time for driving the compressor of said unit, a valve for controlling the flow of said refrigerant to said expansion member, thermostatic means responsive to the temperature of said medium for controlling said valve, a pump for forcing said fluid medium through said circulating means, a by-pass associated with said circulating means, a valve for regulating the effectivity of said by-pass, and thermostatic means responsive to the temperature in said space for controlling said valve.

1,899,171. REFRIGERATOR CONSTRUCTION. Virgil P. Warren, Atlanta, Ga. Filed Dec. 26, 1928. Serial No. 328,468. 1 Claim. Cl. 312—186.)

In a refrigerator having a frame work providing an opening therethrough to a compartment therein, a door for said open-



1,899,171

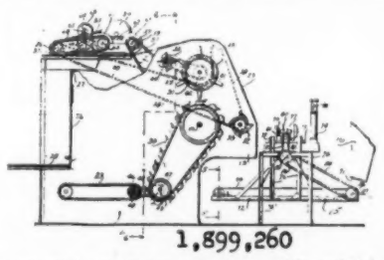
ing pivotally mounted on the outer face of the frame work by hinges mounted on an outer side edge of the frame, a closure plate pivotally mounted by one edge within the compartment by hinge means having pivots spaced from but parallel with those of the door hinges, a quadrant shaped shelf rigidly secured by one angular edge to the bottom part of the closure plate, a slotted slide plate secured to the shelf adjacent to and parallel with its other angular edge and a supporting bracket rigidly secured to the inner face of the door and having a pin slidable in the slot of said slide plate, whereby said shelf is supported in part by the bracket and plate and transmits motion from the door to the closure plate as specified.

1,899,259. PROCESS OF REFRIGERATION. Nikodem Caro, Berlin-Dahlem, Albert Rudolph Frank, Berlin-Halensee, and Rudolf Wendlandt, and Thomas Fischer, Piesteritz near Wittenberg, Germany. Filed Feb. 7, 1930, Serial No. 426,785, and in Germany Feb. 8, 1929. 2 Claims. (Cl. 62—175.)

1. A process of cooling nitro compounds, such as nitric acid and nitric oxides, which consists in bringing said nitro compounds into indirect heat exchange with a mass of cold aqua ammonia, and then cooling said aqua ammonia by bringing it into indirect heat exchange with a primary refrigerant.

1,899,260. MATERIAL-HANDLING APPARATUS. Arthur L. Clements, Chicago, Ill., assignor to Dry-Zero Corp., Wilmington, Del., a Corporation of Delaware. Filed March 20, 1930. Serial No. 437,474. 8 Claims. (Cl. 19—63.)

1. In an automatic weighing apparatus, the combination of a weighing device, a conveyor and drive means therefor mount-

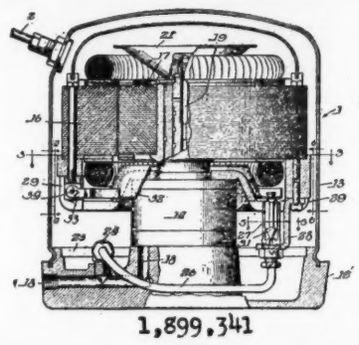


1,899,260

ed on said weighing device, said weighing device registering the net weight of the material on the conveyor, means for feeding material to said conveyor, and means for automatically controlling the feeding means by said weighing device.

1,899,341. MAGNETIC UNLOADER. Carl E. L. Lipman, Chicago, Ill., assignor to Lipman Patents Corp., Chicago, Ill., a Corporation of Delaware. Filed Feb. 27, 1931. Serial No. 518,746. 15 Claims. (Cl. 62—4.)

1. In a refrigerating device, a refrigerant circulatory system including a heat exchange element, a condenser, and a com-



1,899,341

pressor, an electric motor for driving said compressor, means for substantially reducing the pressure of the high pressure side of the system upon starting said motor, said means being actuated by the increased field around the motor set up by the starting current.

1,899,372. REFRIGERATOR. Carl F. Walter, Lincoln, Nebr. Filed Jan. 5, 1932. Serial No. 584,832. 2 Claims. (Cl. 312—183.)

1. A refrigerator comprising a box, brackets secured in the wall of the box and consisting of hooks having upturned threaded inner ends, a frame having arms provided with terminal openings receiving the upturned ends of said brackets, nuts engaging the threaded ends of the hooks on opposite sides of the arms and bearing thereagainst to hold the frame on the brackets and permit adjustment of said frame vertically of the brackets, a food-carrying tray, and means for rotatably supporting the tray on the frame.

1,899,378. METHOD OF AND APPARATUS FOR SEPARATING A LIQUID FROM OTHER LIQUIDS. George H. Zouck, Orange, N. J., and William L. De Baufre, New York, N. Y., assignors to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Oct. 20, 1926. Serial No. 142,810. 29 Claims. (Cl. 62—115.)

1. In a refrigerating system in which a refrigerant is adapted to be circulated, a compressor having lubricant, a condenser for receiving said refrigerant from said compressor, an evaporator for receiving said refrigerant in liquid form from said condenser, said evaporator adapted to absorb heat from the surrounding bodies, a conduit for conducting the refrigerant in gas form from said evaporator to said compressor, some of said lubricant being carried to said evaporator by said refrigerant, a second conduit connecting said evaporator and said first conduit which second conduit is constantly open and which is adapted to receive relatively small amounts of the lubricant and of the refrigerant in liquid form, said second conduit extending above the top level of liquid in said evaporator and being connected to said first conduit in a manner to have the passing of the refrigerant in gas form through said first conduit cause a reduction in pressure at the end of the second conduit at the point of juncture with said first conduit.

1,899,578. LIQUID COOLER FOR REFRIGERATORS. Lynn G. Lindsay, near Dayton, Ohio, assignor to Trupar Mfg. Co., Dayton, Ohio, a Corporation of Ohio. Filed Aug. 11, 1931. Serial No. 556,397. 1 Claim. (Cl. 62—42.)

In a refrigerator casing having a door to afford access to the interior thereof, an elongated shallow liquid container secured to the upper inside portion of said door, a funnel inlet portion flared outwardly from the top part of the front wall of the container, a tube projecting from the bottom of said container through said side door, and a faucet secured to said tube on the front side of said door.

(To Be Continued in Next Issue)

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Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.,—aluminum tubing for ammonia.

Absolute Metal to Metal Contact.

A Superior Coil in which Soldered Return Bends have been eliminated.

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for

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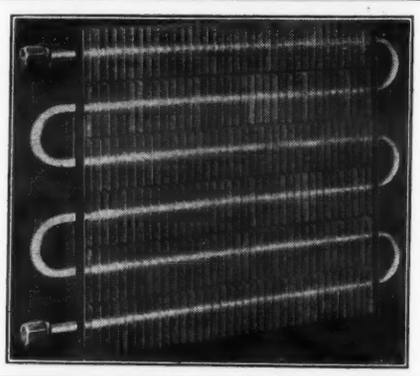

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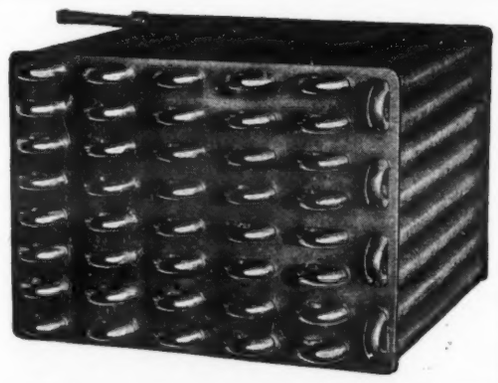
Highest Efficiency With Smallest Number of Joints



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Rome, N. Y.

Makers of Rome Condensers and Helical Finned Tubing

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PISTON RINGS
FLOAT VALVES
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COPPER TUBE
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Or Will Make from Sample

COMMERCIAL DRY EXPANSION EVAPORATORS DOMESTIC

ICELESS REFRIGERATION ACCESSORIES COMPANY
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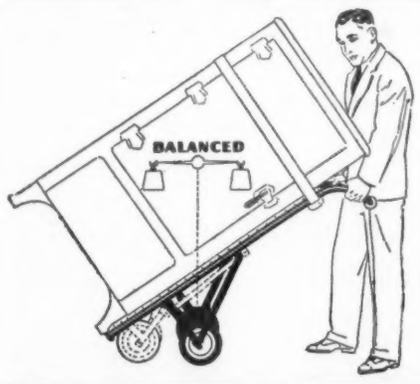

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Manufacturers of the Caster X-70 Refrigerator Trucks

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ALL-COPPER COMMERCIAL EVAPORATORS
"Hot-Dip" thermal bond between every fin and every tube

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In 2, 3, 4 and 5 tray sizes with Chrome or Porcelain Cover Plates

CONDENSERS for HIGH SIDES

TRENTON AUTO RADIATOR WORKS
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QUESTIONS

Railroad Air Conditioning

No. 1104 (Contractors, Canada)—"The writer is very interested in investigating methods adopted in recent years for cooling and conditioning the air of railway cars, and has been referred to you for information on this subject."

Answer—Systems developed by the important manufacturers in this field were described in ELECTRIC REFRIGERATION NEWS last year. Following are manufacturers' names, and dates of issue which described his equipment: York Ice Machinery Corp., March 23; Pullman Car & Mfg. Co., April 20; Carrier Engineering Corp., May 4; Westinghouse Electric & Mfg. Co., July 13; and Frigidaire Corp., Dec. 14 (all 1932).

Leak Detectors

No. 1105 (Manufacturer, Oklahoma)—"I would appreciate it very much if you will give me literature describing 'Halide' lamps which are used in determining leaks in refrigeration systems which use organic chloride refrigerants. I would also like the name of the manufacturers."

Answer—Get in touch with Hull Torch Mfg. Co., Hagerstown, Md., and Turner Brass Works, Sycamore, Ill., makers of these leak detectors.

Thermometer as Premium

No. 1106 (Dealer, West Virginia)—"I would like to get in touch with some manufacturer making a small thermometer for electric refrigerators, or some other inexpensive accessory containing an advertisement which can be given away."

Answer—Anyone furnishing such a device should communicate with ELECTRIC REFRIGERATION NEWS.

Refrigerant Charging Outfit

No. 1107 (Manufacturer, Massachusetts)—"Will you kindly advise us whether or not anyone is manufacturing complete refrigerant charging outfits for factory use?

"We are aware that most of the larger companies have made up their own equipment for this purpose, but possibly someone with whom we have had no contact is now manufacturing apparatus of this sort."

Answer—Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa., has just developed a complete refrigerant charging outfit. It will be described in an early issue of the NEWS.

25-Cent Coin Meters

No. 1108 (Distributor, Pennsylvania)—"Would you be kind enough to send us names of the various manufacturers of 25-cent (quarter) meters."

Answer—See page 211 of the REFRIGERATION DIRECTORY and MARKET DATA BOOK.

Ice Cube Trays

No. 1109 (German Firm)—"What company manufactures McCord trays for ice cubes?"

Answer—McCord Radiator & Mfg. Co., 2587 E. Grand Blvd., Detroit, Mich.

FINANCIAL STATEMENTS

Grigsby-Grunow Co.

CHICAGO — Grigsby-Grunow Co., manufacturer of Majestic electric refrigerators and radios, reports a net loss of $2,775,569 for the year ended Dec. 31, 1932.

No comparison with the preceding year is available since the company at the end of 1931 changed its fiscal year to conform with the calendar year, resulting in only a seven months' report at the end of last year.

Gross loss after interest and miscellaneous charges was $4,044,153. Net loss was reduced to $2,775,569 after income credits of $1,244,473, of which the bulk was represented by income from settlement of the Radio Corp. suit.

Net sales for the last year were $9,349,740, as against $8,417,589 for the last seven months of 1931. Cost of sales was $8,099,685. Advertising and sales promotion, selling and administrative expenses were $2,527,659. Depreciation and amortization of $1,987,294 brought the total loss from operations to $3,480,749.

Other income charges in the nature of bonds, supplementary provisions for possible losses on receivables and adjustment of inventories, losses on disposal of property, and loss in investments brought the total gross loss to $4,044,153, which was reduced by income credits, as explained above, to $2,775,569.

The balance sheet at the end of 1932 shows current assets of $3,484,286 and current liabilities of $1,273,817, against $4,177,766 and $1,079,291 on Dec. 31, 1931.

Other assets listed are investments, $770,685; property, $12,982,855; deferred charges, $331,524; trade name, patent rights, and good will, $3,215,237; remaining assets, $408,714.45; or total assets of $21,193,302.

Total deficit at the end of 1932 was $5,541,650. Capital surplus was $908,256. Total net worth is placed at $16,779,922.

In the report to the stockholders, B. J. Grigsby, president, made the following statement:

"The products of your company included those of three distinct major industries: (1) radio receiving sets, (2) radio tubes, and (3) electric refrigerators. In common with other companies in the field and in industry generally, we have suffered through the effects of depressed conditions existing throughout the country.

"Further, each of our products has had an additional burden placed upon it by the government so-called luxury tax of 5 per cent on sales. It is hoped this will shortly be abolished in favor of a small, equitable general sales tax, as our products are not 'luxuries' but necessities in the American home.

"Referring to the balance sheet as of Dec. 31, 1932, it will be noted that current assets amounted to $3,484,286.19 and current liabilities amounted to $1,273,817.14—or a ratio of 2.7 to 1. This compares favorably with the ratio at December, 1931, when it was 3.85 to 1, and at May 31, 1931, when it was 2.7 to 1. There are no bank loans.

"For the sake of efficiency and economy, considerable attention has been devoted to reducing the amount of investment in inventories required to carry on operations. In spite of the low volume of sales, average inventories have been turned over six times in the past year.

"The results for the period show a loss of $2,799,680.10. Of this amount $1,987,294.62 is represented by depreciation and amortization charges. Obviously our capital investment is far beyond present requirements. Our plant, machinery, land and buildings were acquired principally during the high-cost 'boom period' of 1928-1929, and it will be proper to mention that your directors feel that as soon as business indicates a definite upturn this should be appraised and written down to present values and our capital structure altered accordingly, so that there will be no unfair burden to handicap or delay a return to a dividend paying basis. Many of the largest companies in the country are following this procedure.

"Further economies in operating costs have been and are being made in line with lowered sales volume. Important improvements have been made in our products, so that we believe we have the outstanding lines of merchandise in their respective fields. Your company is one of the pioneers in the development of radio sets for automobiles, and indications are that this will be one of our most popular lines.

"It has been adopted as optional equipment by the country's largest manufacturer in the low-price field and with passenger car registrations in the United States approximately equal in number to the electrically-wired homes, this phase of our business should be an important one.

"At the close of the year, the company settled its long pending litigation with Radio Corp. of America. Your officers feel that the results of that action were of inestimable benefit to your company and the industry, as it increased the scope of products under our licenses and materially reduced the royalties payable."

General Electric Co.

SCHENECTADY, N. Y.—The General Electric Co. in a preliminary statement issued Feb. 28 reported net income for 1932 of $14,404,100, equivalent after dividends on the 6 per cent special stock to 41 cents a share on the common stock. (This statement is for the entire General Electric Co. and *not* for the refrigeration division.)

Sales billed in 1932 amounted to $147,162,291 compared with $263,275,255 in 1931.

Testing Laboratory
For refrigerators and refrigerating equipment
George B. Bright Co.
Refrigerating Engineers and Architects
2615 12th St., Detroit, Mich.

NEW USED
100 or more Electric Refrigerators late type 4, 5, or 6 cu. ft. wanted at once for cash, standard makes only.
Washing Machines bought, new or used.
Write or wire *complete* details and specifications
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CALL AL HENDERSON for service on all makes of Refrigeration Equipment. Estimate gladly given. Phone 3-1717, 102 So. Lewis, Tulsa, Oklahoma.

CHICAGO, ILL., and ALL SUBURBS. Refrigeration service, installation, maintenance. All makes—One of the oldest independent service organizations in Chicago with competent staff of thoroughly trained men. Financially sound. Inquiries invited from mfrs. and distributors. Refrigeration Maintenance Corp., 365 E. Illinois St., Chicago, Ill. Phone Superior 2085-86-87.

WE SERVICE all makes of refrigerators and carry supplies for servicemen and dealers. The Key Shop, G. W. Perrine, Prop., 924 Grant St., Springfield, Ohio.

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And you'll be delighted with Fort Shelby cuisine, service and tariffs in any of its three restaurants. Breakfasts begin at 25c; luncheons as low as 35c. Dinners 90c and upwards. Each of its 900 rooms is equipped with servidor, circulating ice water and private bath. Radio for every room. Music and dancing every evening in the Main Dining Room . . . no couvert charge. Rates as low as $2.50 per day.

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